CONTROL DATA

60469530-G

930 Computer
932 Computer
9639 Tape Subsystem
9730 Tape/Disk Subsystem
9836 Disk Subsystem
19002 Console

INSTALLATION Guide

/ CYBER 930
Computer System

Manual History

Revision Level	Description	ECO/FCO	Date
C	Obsoletes all previous editions	PD 03889	April 1988
D	Obsoletes all previous editions. Manual revised to document console software level 8408C for CIP L703 release and make miscellaneous technical changes to support 932 mainframe.	PD 04092	June 1988
E	Revision packet. Manual revised to document CIP L716 release and to support 9853 Disk Storage Subsystem and 5698 Magnetic Tape Subsystem.	PD 04169	December 1988
F	Revision packet. Manual revised to support the 19002-11 console and make miscellaneous technical changes.	PD 04195	September 1989
G	Revision packet. Manual revised to document CIP 930 and 932 V11 L739 release.		September 1989

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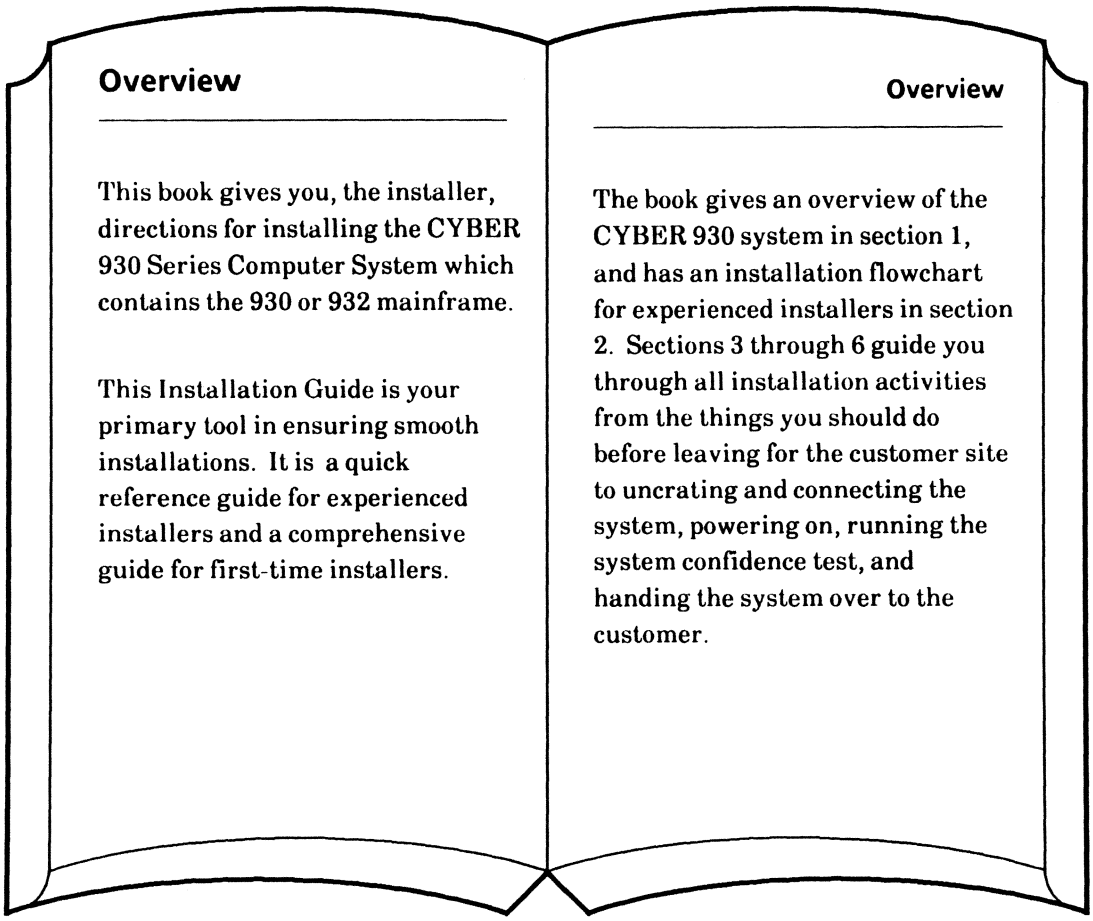
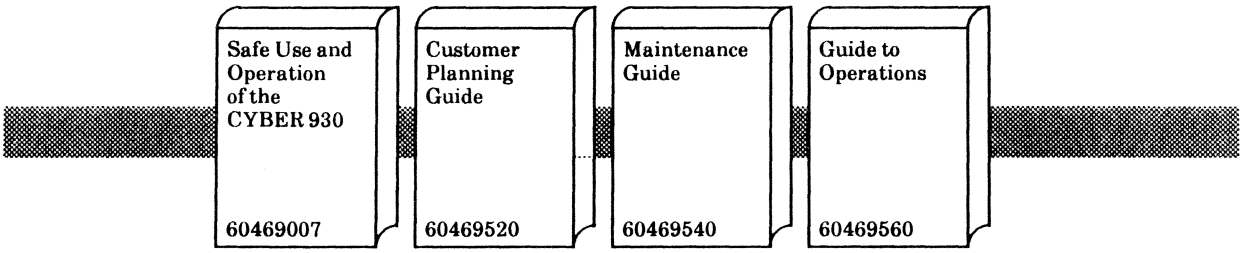
About This Book

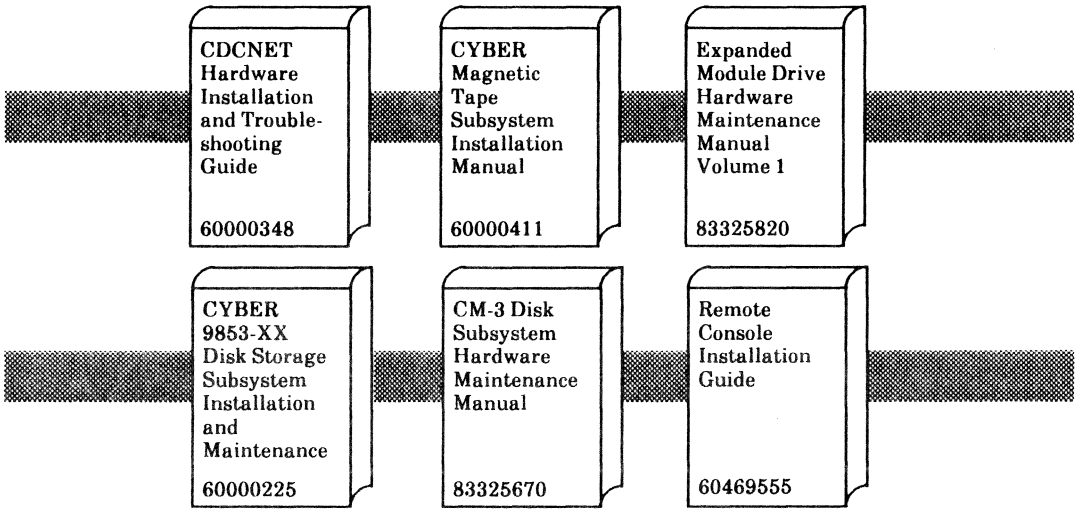

Overview
This book gives you, the installer, directions for installing the CYBER 930 Series Computer System which contains the 930 or 932 mainframe.
This Installation Guide is your primary tool in ensuring smooth installations. It is a quick reference guide for experienced installers and a comprehensive guide for first-time installers.
Overview
The book gives an overview of the CYBER 930 system in section 1, and has an installation flowchart for experienced installers in section 2. Sections 3 through 6 guide you through all installation activities from the things you should do before leaving for the customer site to uncrating and connecting the system, powering on, running the system confidence test, and handing the system over to the customer.

Related Publications

For more information about the CYBER 930 Series Computer Systems, consult the following publications :



You may need to refer to other manuals to complete installation activities such as installing CDCNET or a CYBER 9853 Disk Storage Subsystem. Most related manuals are shipped with the subsystem.



Ordering Additional Books

Copies of the CYBER 930 Series Computer Systems Installation Guide are available from Control Data Literature and Distribution Services.

For more information about Control Data publications and how to order them contact:

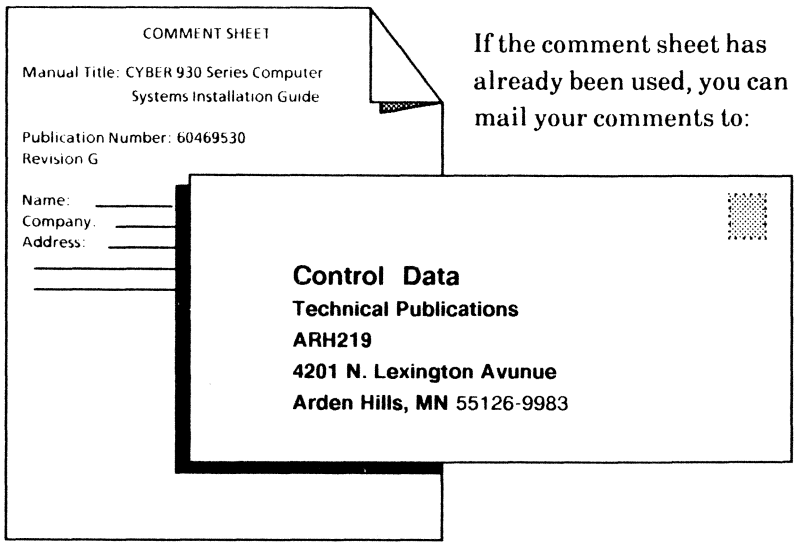
Control Data Literature and Distribution Services
308 North Dale Street
St. Paul, Minnesota, U.S.A. 55103

Making Comments on This Book

To improve the installation process, we need the following feedback to make the CYBER 930 Series Computer System installations faster, smoother, and more dynamic:

- What parts of the guide helped you install the system?
- Are there any errors in the book?
- Can you find the information you need?

Send us your feedback either by filling out the Comment Sheet at the back of this book or by submitting a Technical Action Request (TAR).



If the comment sheet has already been used, you can mail your comments to:

Publications will respond to your comments and make sure that the Installation Guide gives you the information you need. For a a direct and speedy response, give us your Technical Services branch office address and your telephone or Controlnet number.

If You Encounter Difficulties

If you have difficulties during an installation, refer to the CYBER 930 Series Computer Systems Maintenance Guide [Control Data publication 60469540] shipped with the equipment to the customer site.

Follow the escalation procedures outlined by your Technical Services branch office. Contact your Technical Services branch manager or your engineer-in-charge.

Calling for Help

If you do have problems during an installation, help is available. Call Technical Services Customer Support Services where an experienced CYBER 930 technical support engineer will answer all your questions and help you in installing the system.

To contact Engineering Services Customer Support Services:

In the **continental United States**, call **800 345-9904**
In **Canada**, call **800 345-9903**
For **Alaska, Hawaii, and international sites**, call **612 851-4131**

Electromagnetic Certification

RADIO FREQUENCY WARNING

This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device and peripheral computing devices pursuant to Subpart J of Part 15 of the FCC rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference.

Canada

This digital apparatus does not exceed the Class A limits for Radio Noise Emissions from Digital Apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Federal Republic of Germany

Bescheinigung des Herstellers/Importeurs

Hiermit wird bestaetigt, dass der/die/das

CYBER 180, 930/932, AA177B/AA180B
(Geraet, Typ. Bezeichnung)

In Uebereinstimmung mit den Bestimmungen der

1046/1984
(Amtsablattverfuegung)

funkentstoert ist.

Der Deutschen Bundespost wurde das Inverkehrbringen dieses Geraetes angezeigt und die Berechtigung zur Ueberpruefung der Serie auf Einhaltung der Bestimmungen eingeraeumt.

Control Data Corporation.
(Name des Herstellers/Importeurs)

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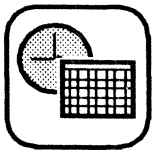
Schedule and Confirm Installation Date and Time

Scheduling the Installation

After the site is prepared and the equipment has arrived, the customers usually telephones and informs the sales representative. Installation is then scheduled with an **acclimatization period** taken into account.

> **⚠ CAUTION**
>
> Installation must take place at least 24 hours after the equipment arrives at the customer site and has been moved to the designated location. Do not uncrate any cabinets during acclimatization. The packaging material allows the equipment to adjust slowly to room temperature.

Confirming Installation Date and Time



The customer should have prepared the site according to the directions in the CYBER 930 Computer System Customer Planning Guide [Control Data publication 60469520].

Because there is no site readiness check before installation, you must call the customer to confirm that they are prepared for installation.

Before you contact the customer, review the CYBER 930 Customer Planning Guide [Control Data publication 60469520]. This book includes a customer planning checklist that outlines the customer's preinstallation responsibilities.

During your telephone conversation, the customer may refer to the Customer Planning Guide. Be prepared to answer specific questions about the preparations they made and the floor plan they selected for their system.

A preinstallation checklist for your use follows.

Preinstallation Checklist

Complete the following Preinstallation Checklist. If the customer is not prepared for installation, or if you are concerned about the customer's responses to any of the foregoing, discuss them with the engineer-in-charge or your Technical Services branch manager.

- ☐ What is the name of the customer contact you ask for when you arrive at the site?
- ☐ Do you have the correct address at which the system is to be installed?
- ☐ Has the shipment arrived?
  - ☐ When did the equipment arrive?
  - ☐ When was the equipment moved to the location where it is to be installed?

NOTE

Ensure that a full 24 hours of acclimatization elapses before installation. If you are uncertain about the acclimatization period, check with your Technical Services branch manager or engineer-in-charge.

- ☐ Did the customer notice any damage to the shipping containers-- in particular the large (cabinet) crates--on delivery?
- ☐ What are the details of their CYBER 930 Computer System order, including the number of tape, disk, and tape/disk cabinets?
  - ☐ In general, how is the customer planning to physically configure (lay out) their system?
  - ☐ Did they order optional cables if required for this kind of layout?
- ☐ Has power for the 930 system been installed at the site?
- ☐ Has the customer arranged for an electrician to be on site at the same day and time as the scheduled installation? An electrician is required under any one of the following conditions:
  - ☐ Power in the area is 50 Hz
  - ☐ Local electrical codes require an electrician to be present
  - ☐ The customer wants the power cords hard wired
  - ☐ Special power cords (longer, armored) and strain release plates are being installed

(checklist continued on next page)

- ☐ Has the customer allowed for Remote Technical Assistance?
  - ☐ Have services for utilities, such as power been supplied?
  - ☐ If local regulations stipulate that modems are supplied and installed by the telephone service or other agency, has a modem been provided ?

NOTE

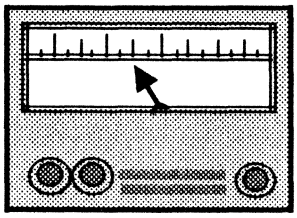
Unless local regulations are to the contrary, you are responsible for providing a modem for Remote Technical Assistance (RTA). Make sure that a MultiTech Systems MultiModem 224E is available at the site. The 1.8 m (6 ft) modem cable is supplied with the CYBER 930 system.

- ☐ Has a telephone been connected for RTA?
  - ☐ Is this a direct line? RTA cannot go through a switchboard.
  - ☐ What is the RTA telephone number?
  - ☐ Is the RTA direct line dialing *pulse* or *touch tone*?
- ☐ Has the customer ordered a remote console?
  - ☐ Have services, including power, been supplied?
  - ☐ Has an approved modem been provided ?
  - ☐ If local regulations stipulate that modems are supplied (and installed) by the telephone service or other agency, has a modem been provided?
- ☐ Has a telephone been connected for the remote console?
  - ☐ Is this a direct line? (The remote console cannot go through a switchboard.)
  - ☐ What is the telephone number of the remote console?
- ☐ Will the 930 be installed into an existing CDCNET network?
- ☐ Is an analyst available on site? If not, has the customer made arrangements for an analyst to be present during installation?

Tools

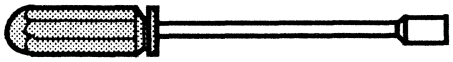
You will need the following tools from the standard customer engineer's toolkit to install the CYBER 930:

☐ **Volt meter**
for checking power receptacles

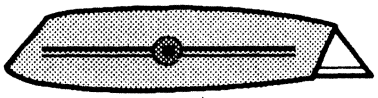


☐ **10 mm (3/8 in) socket wrench**
for removing shipping screw of the tape cabinet

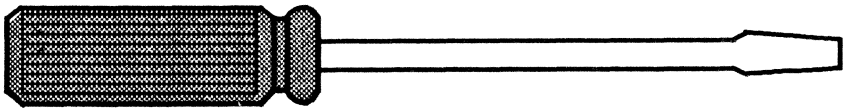
☐ **5 mm (3/16 in) nutdriver**
for securing cable connectors



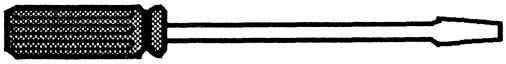
☐ **Utility knife**
for cutting packing straps



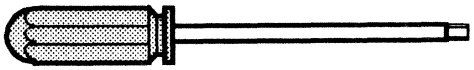
☐ **Large flat slot screwdriver**
for adjusting tape pawl fastener



☐ **Small flat slot screwdriver**
for securing cable connectors

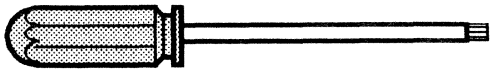


☐ **4 mm (5/32 in) hexdriver**
for opening rear latch of cabinet door



☐ **15 mm (9/16 in) open wrench**
for removing pallet screws and shipping bolts, and for adjusting leveler feet

☐ **T25 Torx screwdriver**
for removing holding screw on the tape cabinet door



Devices

Remote Technical Assistance Modems

You should get the modem from Engineering Services, install it, and verify that RTA is operational during system checkout.

The modem used for Remote Technical Assistance (RTA) in North America for the CYBER 930 Computer System is the MultiTech Systems MultiModem 224E.

In some European countries, modems are provided by the public telephone service or other agencies. If you are installing a modem other than the MultiTech Systems MultiModem 224E, get the modem-specific setup information from Engineering Services Customer Support Services.

Maintenance Kit and Diagnostic and Installation Kit

Make sure that you take the maintenance kit and the diagnostic and installation kit to the customer's site in case you have to replace field replaceable units during installation.

Books

All manuals stay at the customer's site for use by the customer and Control Data personnel.

System Books

A copy of the CYBER 930 Installation Guide is packed in Box 1 with the mainframe. Look for the large *Open First* label that is on the lid of Box 1.

A copy of the Customer Planning Guide is also shipped with the 930 system. If the customer has lost or misplaced their floor plans or their power information for the electrician, use this copy and proceed with the installation.

Peripherals Books

An optional peripheral is always shipped with its own set of manuals. See the table opposite for the manuals that you need for the installation of the optional peripheral.

Subsystem	Control Data Publication
9853 Disk Storage Subsystem	9853 Disk Storage Subsystem Installation and Maintenance Manual [60000225] Expanded Module Drive User's Manual [83327060]
5698 Magnetic Tape Subsystem	5698 CYBER Magnetic Tape Subsystem User's Guide [60000397] 311xC-OHI / 308xC-OHI CYBER Magnetic Tape Subsystem Installation Manual [60000411]
5380 Storage Subsystem	CYBER BS231-1 Storage Subsystem Hardware Maintenance Manual [60000187]

CDCNET

Check the CDCNET Hardware Installation and Troubleshooting Guide [Control Data publication 60000348] to determine what special tools you should bring to install CDCNET.

Printer

If you are also installing a printer, refer to the printer manual and the CDCNET DI Installation and Checkout manual. The printer manuals are shipped with the printer; CDCNET manuals are shipped with the NOS/VE product set publications.

Media

Operating System Software Tapes

Tapes containing the NOS/VE operating system software and product software are delivered with the equipment. These tapes belong to the customer and are stored with the 930 system as the customer directs.

Console Software Diskettes

Floppy diskettes containing console software are also delivered with the equipment. Like the tapes, the floppy diskettes belong to the customer and are stored with the 930 as the customer directs.

The QSA Manual and IQP Reporting

Keep detailed notes on the installation for reporting purposes. An Installation Quality Program (IQP) report must be completed for each installation. The IQP report, and directions for completing it, are in the QSA manual.

A QSA manual is packed with the 930 documentation in the miscellaneous box. The QSA manual includes forms and directions for field technical reporting requirements.

If you have questions about the QSA manual or the IQP report, contact the person listed inside the front cover of the QSA manual.

Section 4
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Check the Bill of Lading 4-5

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Unpack the Console and Miscellaneous Boxes 4-13

Position the Cabinets 4-14

Level the Cabinets 4-15

Position the Console 4-16

Customer and Installer Responsibilities

Make sure that the customer has the following ready for you:

- ☐ The bill of lading received with the equipment;
- ☐ Completed planning checklist;
- ☐ Completed floor plan showing the location of all cabinets, power, Ethernet, telephone, telephone jack, furniture and the console;
- ☐ Strain relief plates that they need to order for using other main AC input cables that have a diameter greater than 20.6 mm (.81 in) or less than 11.4 mm (.45 in);
- ☐ The type of cable management and routing the equipment required;
- ☐ The date and time when an electrician will be available. If the system uses 50-Hz power, local electrical codes require an electrician for hardwiring of power cords or installation of special power cords and strain relief plates;
- ☐ The date and time when an analyst will be available.

You should be aware of the following new cable classifications from the National Electric Code (ANSI/NFPA 70) for North America:

Classification	Usage
Class 2 (CL2)	For general building installations but not in vertical shafts or air plenums and ducts
Class 2R (CL2R)	For use in vertical shafts between floors of a building but not air plenums and ducts
Class 2P (CL2P)	For use in air plenums and ducts

- ☐ If the system console is installed in a different floor or room such that the cable needs to go through vertical risers between floors of a building, or air plenums, use the correct class of cable. The CL2R or CL2P of the 9-pins RS232 console cable is available from local suppliers.
- ☐ If any optional (CL2) 75-foot IPI cable is used during installation, make sure that it is not going through vertical risers between floors of a building or through air plenums; otherwise CL2R or CL2P IPI cable must be used. The CL2R or CL2P IPI cable must be ordered by Quote for Special Equipment (QSE).

Level the Cabinets

Each CYBER 930 cabinet has four leveler feet: one at each corner.

A spirit level is not required to level the cabinets. The cabinets are level when they cannot be moved out of position. Once extended, the leveler feet prevent the castors from readily moving the cabinets.

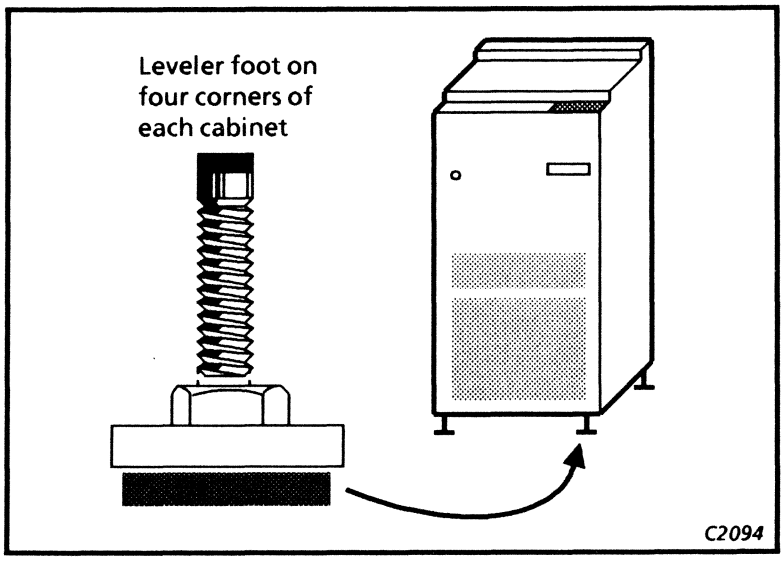
To extend the leveler feet into position:

- ☐ Use a wrench to turn the hexnut adjacent to the top of each leveler foot clockwise. The leveler shaft extends as you turn the hexnut.

  The installer at the front of the cabinet may find it easier to lower the leveler feet with the front door open.

- ☐ After you secure all four leveler feet, the cabinet should not move.

Cabinet Leveler Feet



Position the Console

The 930 Series Computer System includes either a 19002-1 or 19002-11 console. Position the console according to the customer's floor plan. If the system uses the 19002-11 console, you need to attach the tilt-swivel base to the monitor.

☐ If the console and the Device Interface cabinet of the CDCNET are placed on the same table, they must be at least three feet apart.

NOTE

If the console is placed near the Device Interface cabinet, the power supply in the Device Interface cabinet causes interference to the console displays.

☐ Attach the tilt-swivel base to the 19002-11 monitor by following the instructions supplied with the monitor.

Section 5
Connecting the CYBER 930 Computer System

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Cable Management Strategies

When installing a CYBER 930 Computer System, you make the following three kinds of connections:

- ☐ Signal cables
- ☐ Power control cables
- ☐ Power cords

Secure and tighten all cable connections. You must check all internal connections that were made before installation.

Cables are not interchangeable: use only those cables specified for each function.

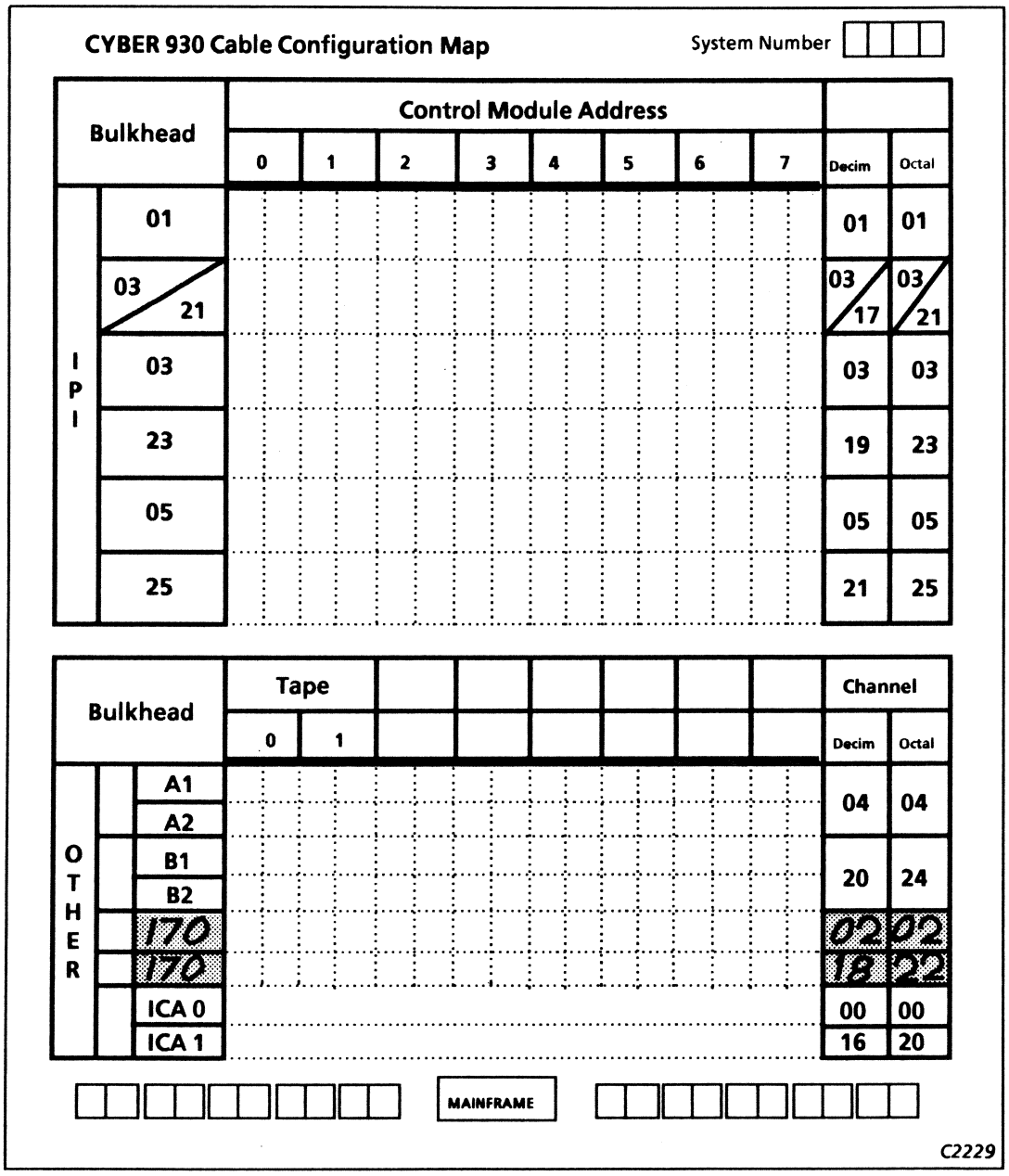
If the customer has requested cables routed under a raised floor or through a utility pole, take that into account when you cable the system. The customer can have the following cable management strategies:

- ☐ Cable ramp
- ☐ Raised floor
- ☐ Utility pole
- ☐ Overhead cable channel

☐ If the CYBER 170 peripherals are already on site, use the blue labels from the 930 Label Kit to identify the cabinets.

☐ You may need to complete the cable map. Because a customer may want to install CYBER 170 peripherals already on their premises, some information may be missing.

The location of CYBER 170 peripheral information on the cable configuration map is shown below.



Expanded Module Drive Cabinet

In addition to the 9836 Disk Subsystem, customers may purchase, as a substitute or additional disk subsystem, the 9853-xx Disk Storage Subsystem. The 9853 Disk Subsystem contains the control module(s) and Expanded Module Drives (XMD).

Signal cables are preinstalled from the control module(s) to the XMD drives and from the control module(s) to the cable bulkhead. Therefore, input or output cables should connect to the cable bulkhead and not to the control module(s).

The terminators, jumper cables, and signal cables for mainframe connections are preinstalled on the XMD cable bulkhead as shown in the figure opposite. Both 9853-2 (1 × 2) and 9853-3 (2 × 4) disk storage subsystems use this cable arrangement to connect the signal cables to the mainframe IPI channels.

- ☐ Connecting the signal cables and creating disk strings are the same as for the 9836 Disk Subsystem.

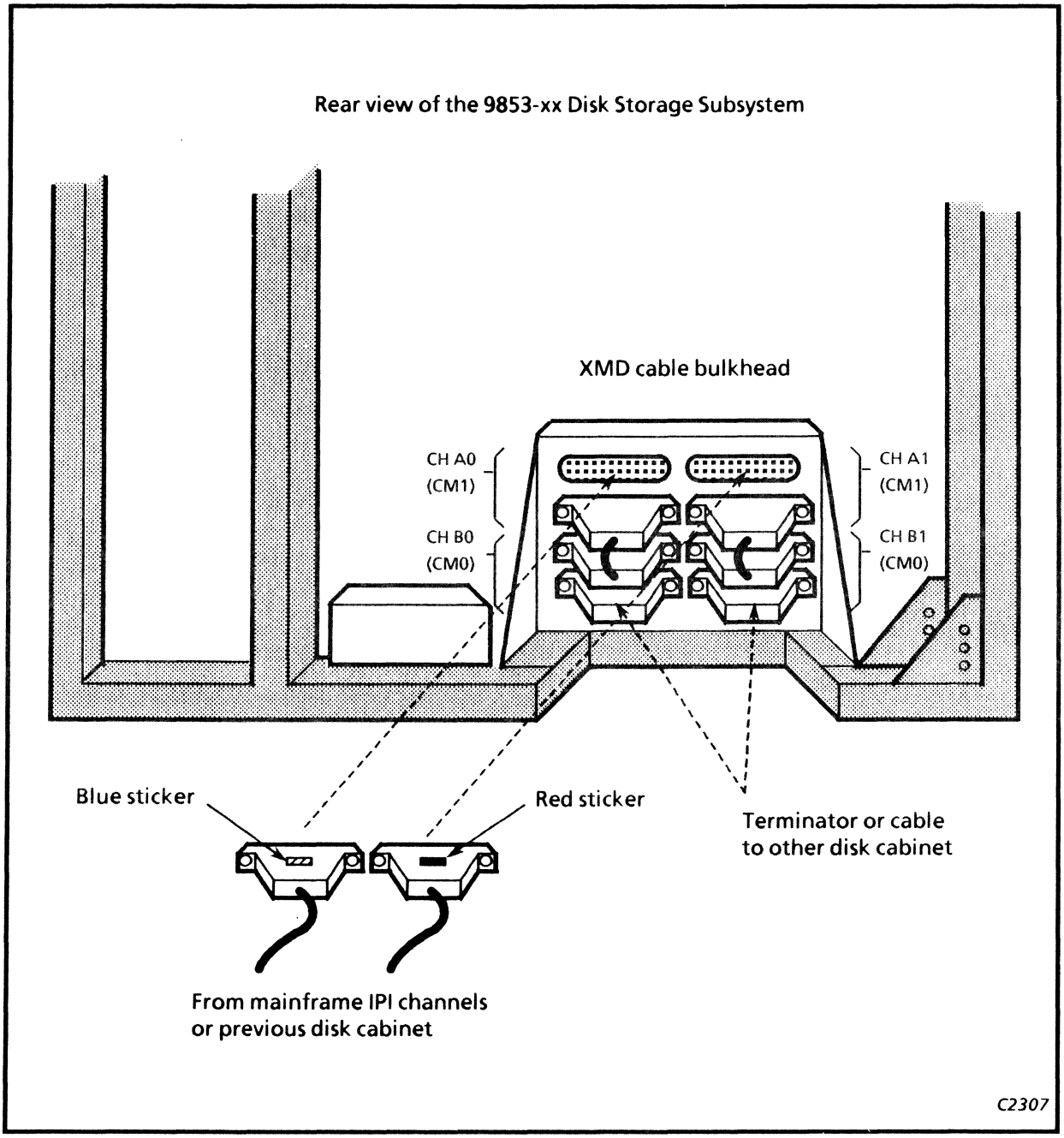
- ☐ The cable configuration map shows where to connect the 9853-xx Disk Storage Subsystem to the IPI channels of the mainframe.

- ☐ For a 2 × 8 XMD configuration, the cables from the last XMD in the first cabinet are daisy-chained to another four XMDs in an auxiliary XMD cabinet. For detailed cable information about the 2 × 8 XMD configuration, refer to the following manuals:

  - CM-3 Disk Subsystem Hardware Maintenance Manual [Control Data publication 83325670]

  - CYBER 9853-xx Disk Storage Subsystem Installation and Maintenance [Control Data publication 60000225]

XMD Cable Bulkhead



IPI Tape Cabinets

The high-performance 5698 Tape Subsystem has a minimum of two IPI tape cabinets. One of the cabinets contains a tape drive, a tape controller, an intelligent peripheral converter (IPC), and the cable bulkhead. The other contains a tape drive and a power distribution box.

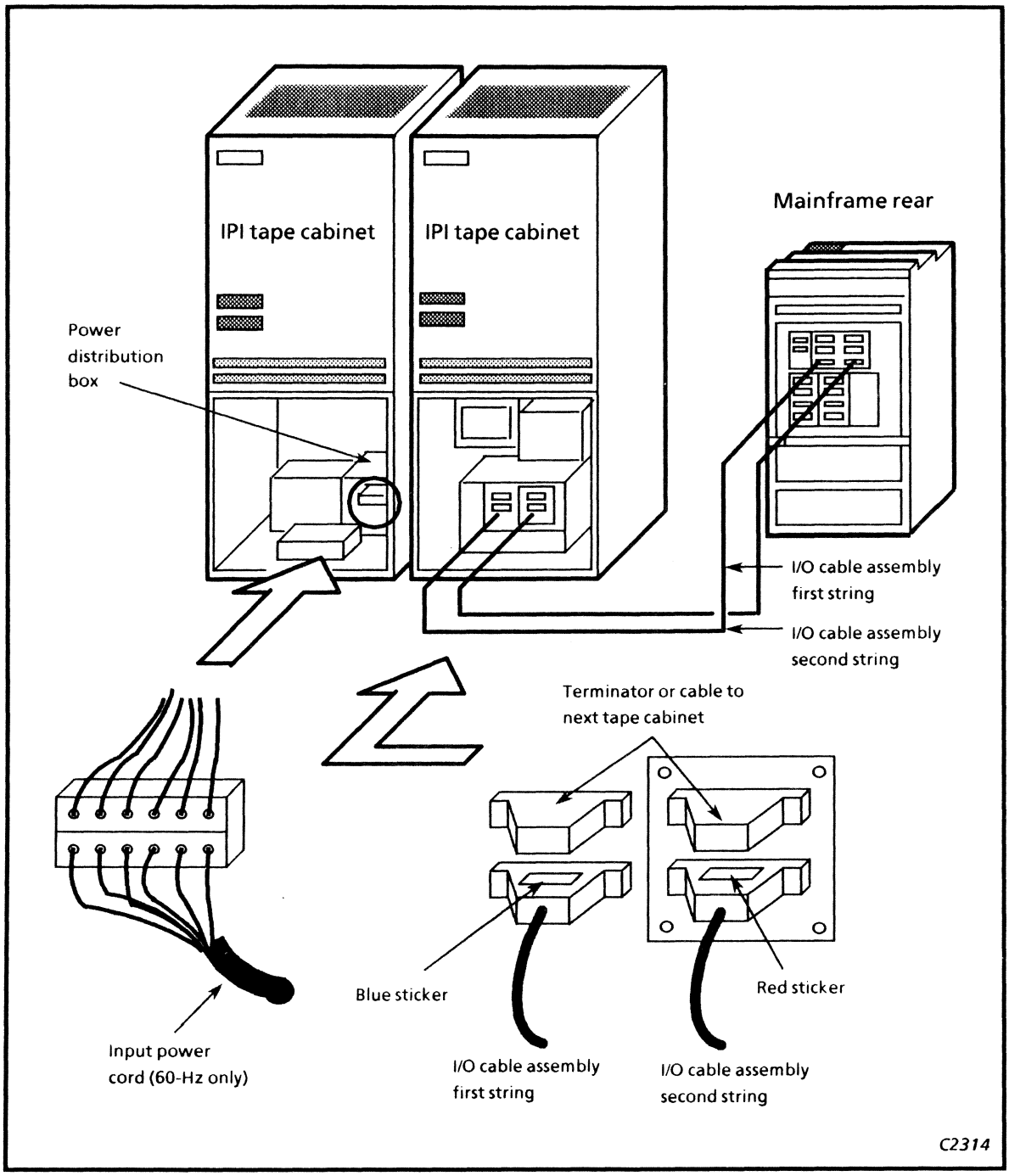
If the tape subsystem uses 50-Hz AC input, it does not have a power cord; therefore, an electrican must be available to install a power cord to the power distribution box. If the tape subsystem uses 60-Hz AC input, a power cord with a Russell-Stoll power connector is preinstalled in the power distribution box. The power cord is capable of supplying power to one tape controller and up to eight tape drives.

The 5698 Tape Subsystem communicates with the mainframe through an Integrated Peripheral Interface (IPI) the same way as the 9836 and 9853 disk subsystems do.

The figure opposite shows the cable connections using dual channels between the mainframe and the IPI tape cabinet.

- ☐ Connecting the signal cables is the same as for the 9836 Disk Subsystem.
- ☐ Make sure the I/O cable connectors have blue and red labels to identify first and second cable strings as shown in figure opposite.
- ☐ The cable configuration map shows where to connect the 5698-xx Magnetic Tape Subsystem to the IPI channels of the mainframe.
- ☐ For information about connecting internal signal and power cables between tape cabinets and about cabling different tape configurations, refer to the following manuals that are shipped with the IPI tape cabinets:
  - 311xC - 0HI / 308xC - 0HI CYBER Magnetic Tape Subsystem Installation Manual [Control Data publication 60000411]
  - 5698-10, -11, -12 CYBER Magnetic Tape Subsystem User's Guide [Control Data publication 60000397]

Connecting IPI Tape Signal Cables to IPI Channels



Power Control Cables

Power control cables send power signals from the mainframe to disk cabinets and the disk part of the tape/disk cabinet.

Disk and tape/disk cabinets are shipped with a power control cable attached at one end. All power control cables are identified by a *Power Control* sticker. The mainframe is shipped with no power control cables attached.

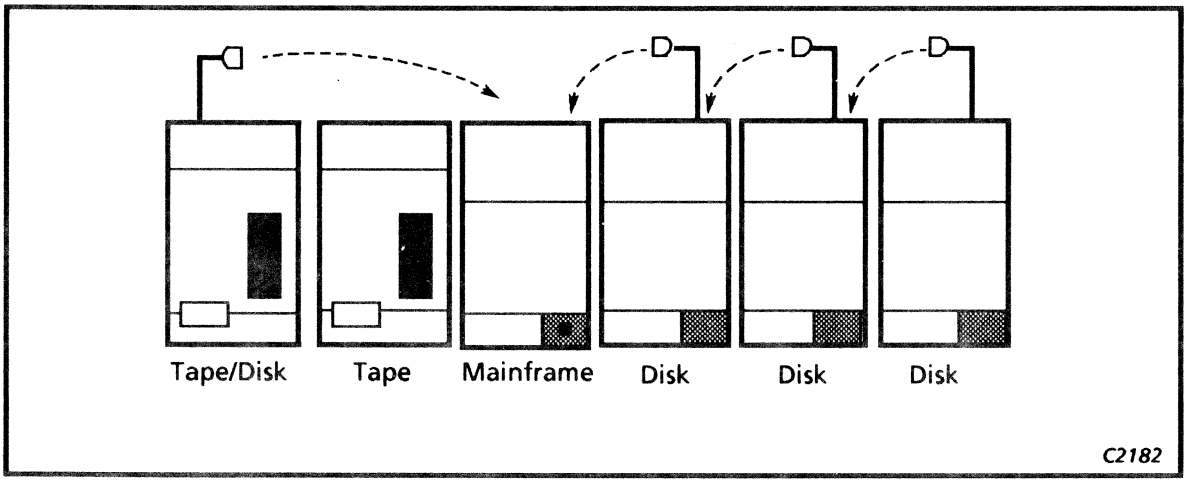
Power Control Strings

Connect power control cables from the mainframe to the disk and tape/disk cabinets in either one or two strings as shown in the illustration. Connect the first cabinet in a power control string directly to the mainframe. Connect all other cabinets in that string, one to the next.

Except for the 9639 Tape Subsystem, 9853 Disk Storage Subsystem, 5698 Magnetic Tape Subsystem, and CYBER 170 peripherals, connect all disk and tape/disk cabinets in the system to a power control string.

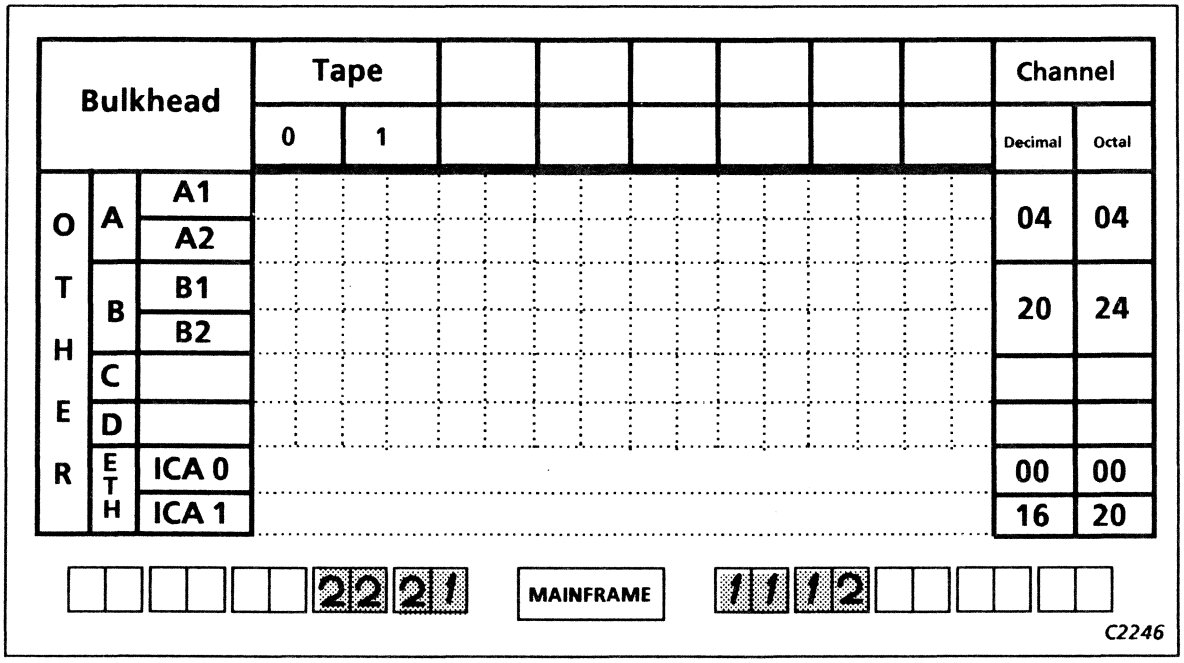
Disk strings, cabinet numbers, and the order in which you cable the cabinets are unimportant when connecting power control cables. Because you can have two power control strings from the mainframe, the easiest way to connect the power control cables is according to the customer's floor plan for the equipment order (number of disk and tape/disk cabinets).

An Overview of Connecting Power Control Cables



☐ As you connect the power control cables, fill out the last line on the cable configuration map. This is the record of how the cabinets are connected, in terms of power control. Use the two-character identifiers to refer to the cabinets.

Cable Connectivity Map--Power Control Information



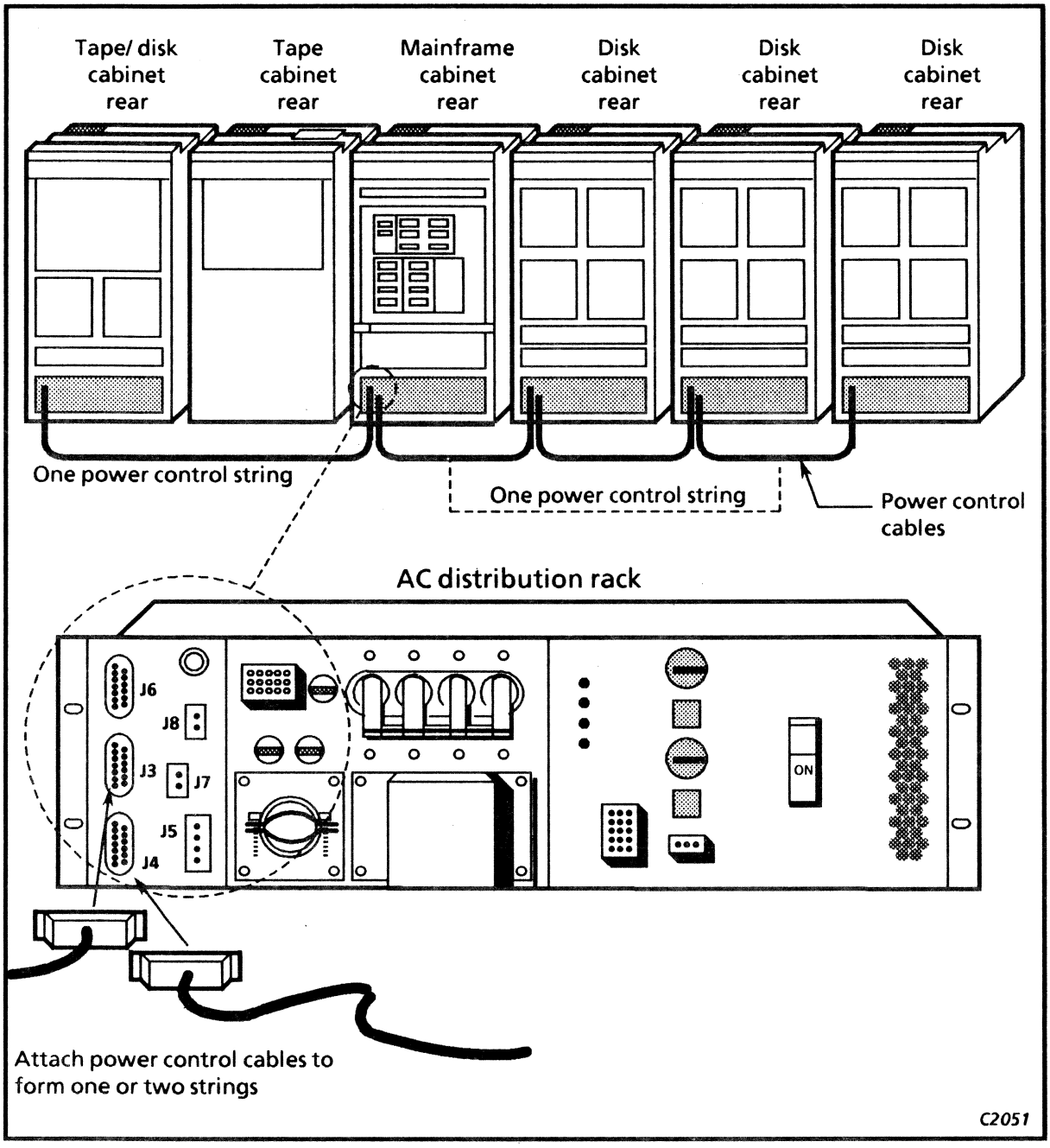
Optional Length Extender Cables

The standard power control cables are 3 m (10 ft). When a customer orders optional length IPI extender cables, the cable set includes a matching power control cable: either 7.6 m (25 ft) or 25.9 m (85 ft). Because the power control cable cannot be attached directly to another power control cable, the matching power control cable is longer than the IPI signal cable.

When using an optional cable set, *remove the standard power control cable* and attach the longer optional power control cable in its place. Then add the IPI extender cables.

Before connecting the power control cables, review the figure on the following page.

A Detailed View of Connecting Power Control Cables



CDCNET Transceiver Cable

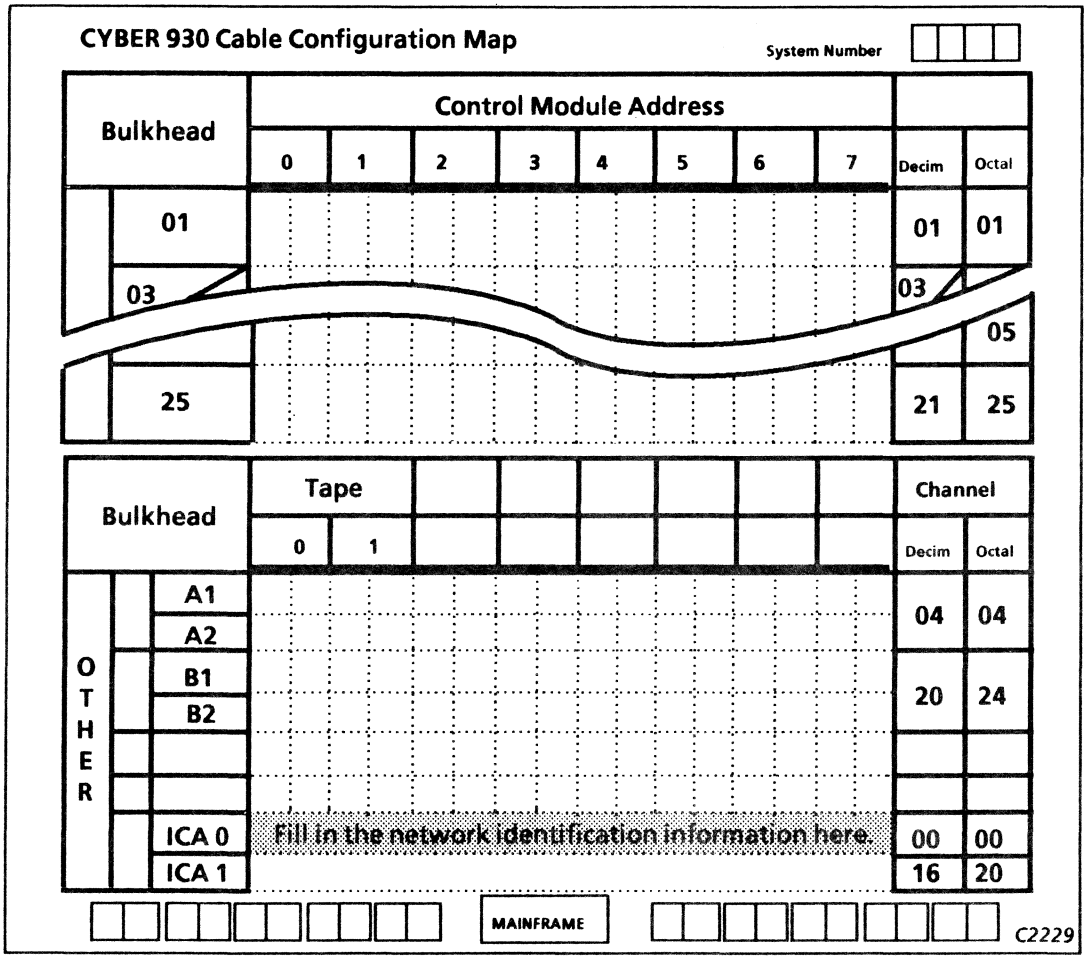
The transceiver cable(s) is part of the CDCNET shipment to the customer.

To connect the transceiver cable:

- ☐ Connect one end of the transceiver cable to the Integrated Communications Adapter (ICA) connector on the mainframe bulkhead;
- ☐ Connect the other end to the CDCNET network. Secure the connection and tighten the retention screws;
- ☐ Add the network identification information to the cable configuration map.

For complete CDCNET installation, refer to the CDCNET Hardware Installation and Troubleshooting Guide [Control Data publication 60000348].

Cable Configuration Map--CDCNET



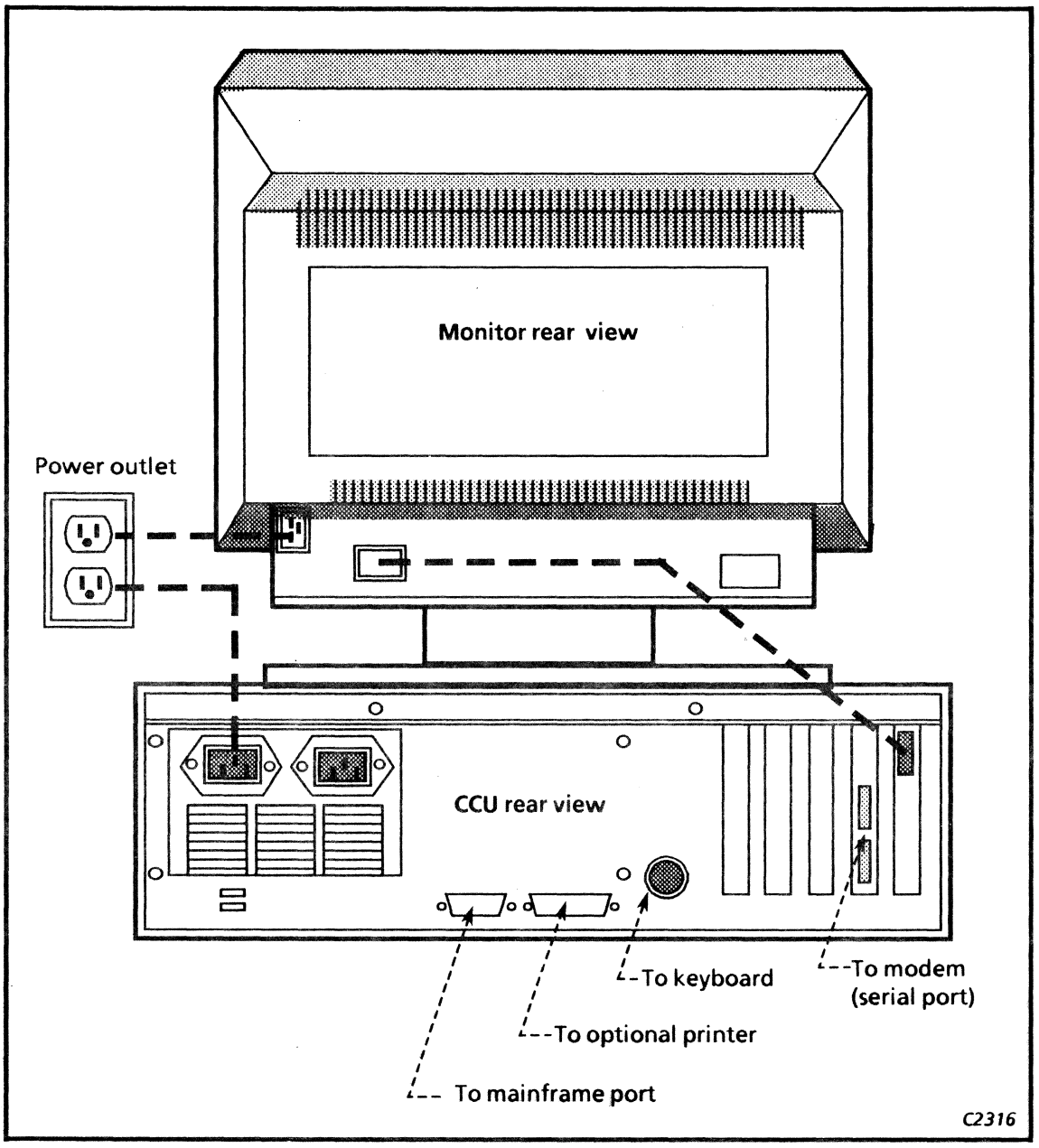
Console Signal Cables

All console signal cables are packed with the console. Set up the 19002-11 or 19002-1 console according to the following procedures.

19002-11 Console

☐ Verify that both the central computing unit (CCU) and the monitor power switches are set to off.

Setting Up the 19002-11 Console



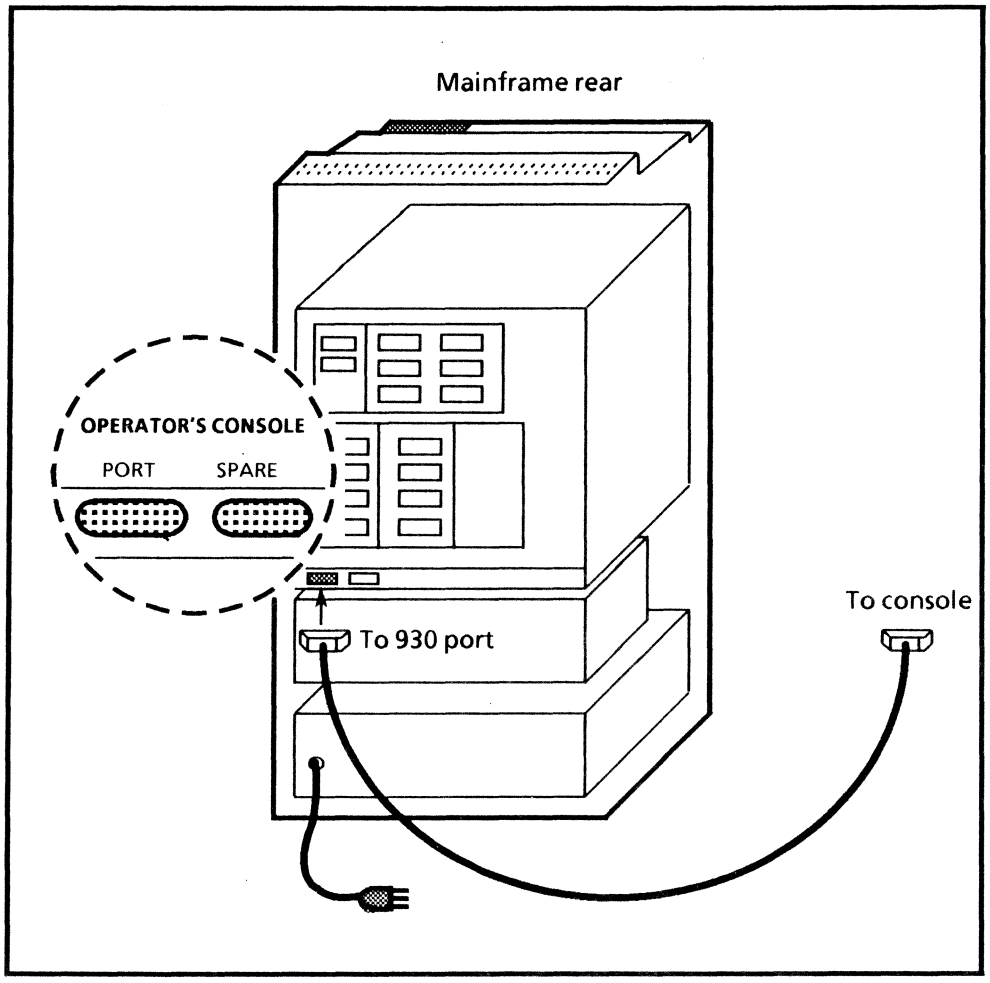
☐ Attach the monitor power cable to the back of the monitor and the console power cable to the back of the CCU. Do not connect either the monitor or CCU power cable to the power outlet now.

☐ Connect the other console signal cables in the following order:

1. Monitor-to-CCU
2. Keyboard-to-CCU
3. Modem-to-CCU, if applicable
4. If the customer has a printer, connect it to the optional console printer port.

☐ Connect the signal cable between the CCU and the mainframe as shown in the following figure.

Connecting the 19002-11 Console-to-Mainframe Cable



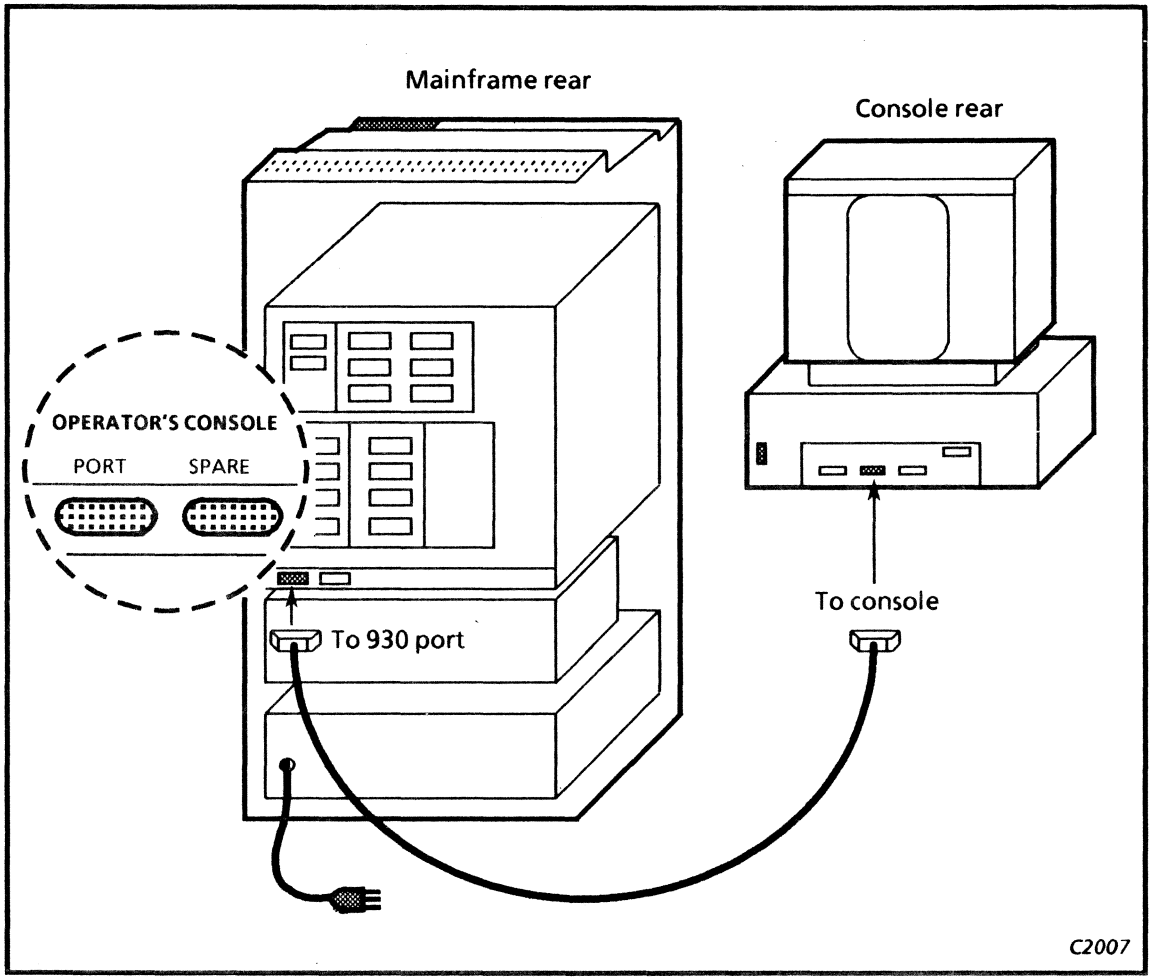
19002-1 Console

☐ Attach the connector labeled **930 Port** to the mainframe as shown in the figure below.

☐ Attach the connector labeled **Console** to the console port.

> **⚠ WARNING**
>
> The cable is not symmetrical. Make sure that you attach the console end of the cable to the console and the 930 Port end of the cable to the mainframe.

Connecting the 19002-1 Console-to-Mainframe Cable

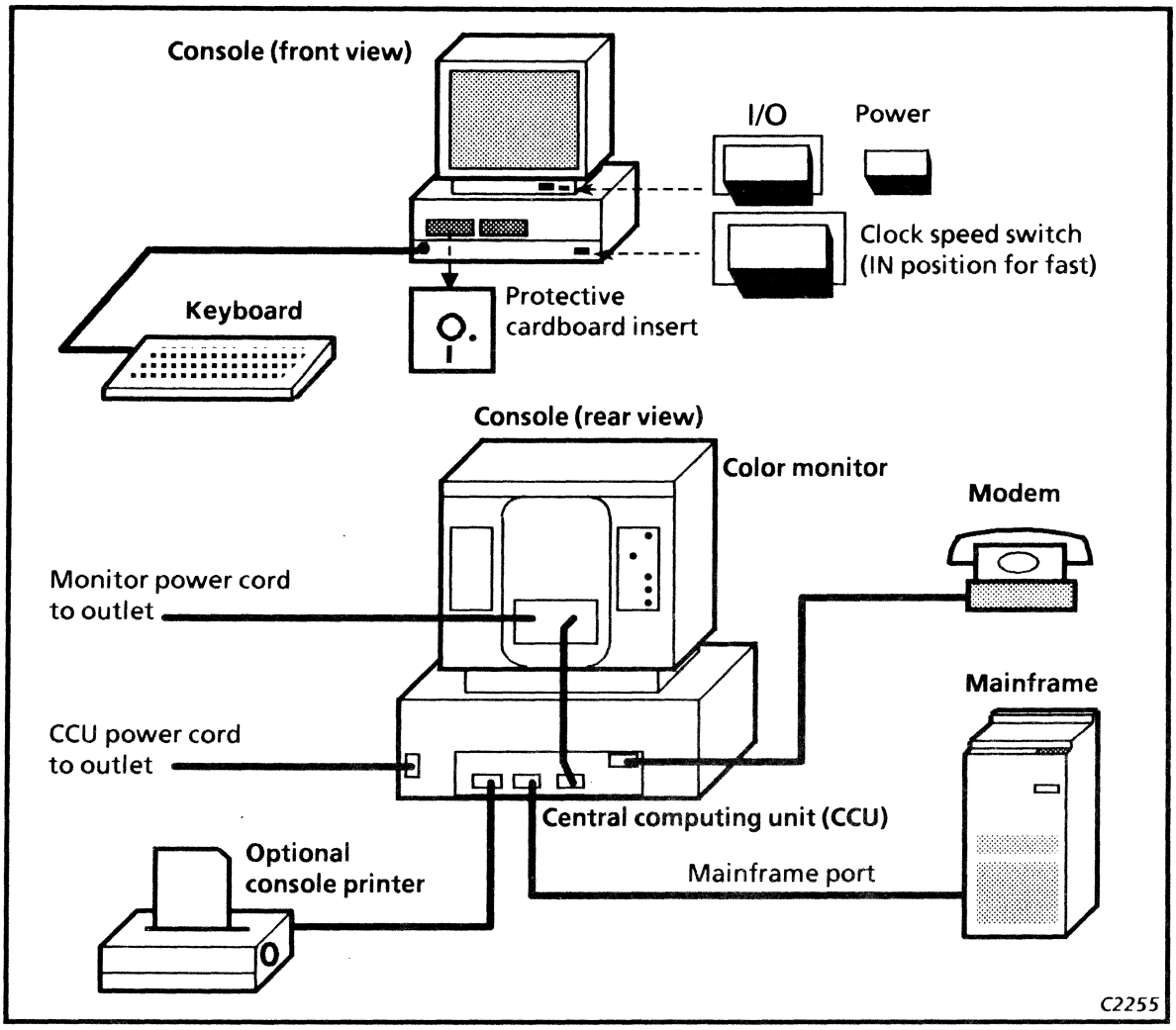


☐ Connect the other console signal cables in the following order:

1. Monitor-to-central computing unit (CCU)
2. Keyboard-to-CCU
3. Modem-to-CCU, if applicable
4. If the customer has a printer, connect it to the optional console printer port.

☐ Verify that both the console central computing unit and the monitor power switches are set to off. Remove the protective cardboard insert from the diskette drive.

Setting up the 19002-1 Console

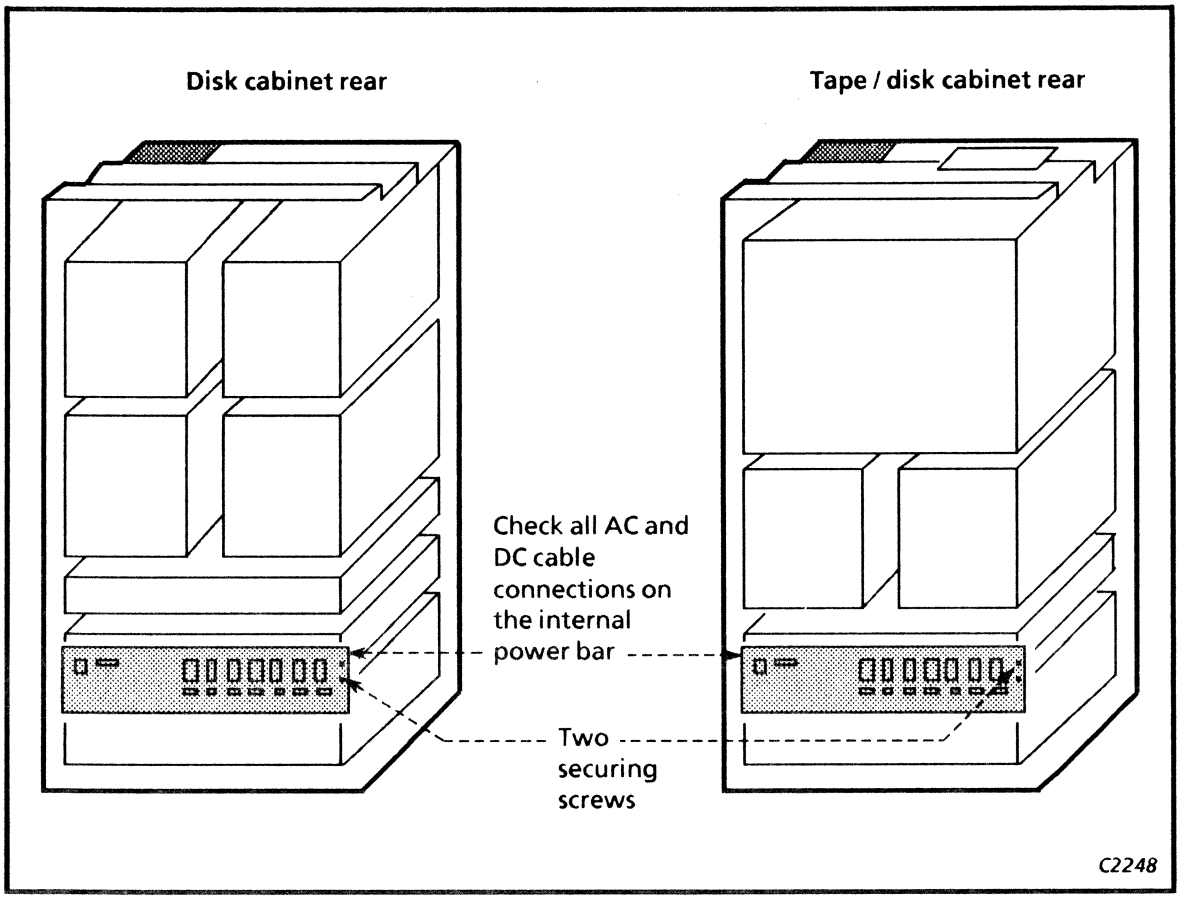


Apply Power - Two Installers

Before applying power, do the following:

- ☐ Check all cable connections. Connections must be secure and tight.
- ☐ Tighten all retention screws that secure cables in the disk and tape/disk cabinets.
- ☐ Check and tighten the connections made to the mainframe bulkhead for IPI cables, ISMT cables, Ethernet (CDCNET) cables, and the console cable.
- ☐ Make sure that all AC and DC power cords are secure in the internal power bar of the disk and tape/disk cabinets. The figure below shows the location of the internal power bar.

Internal Power Bar


Disk cabinet rear
Tape / disk cabinet rear
Check all AC and DC cable connections on the internal power bar
Two securing screws
C2248

- ☐ Make sure that all logic boards are firmly seated in the card cage.

- ☐ Complete the power safety checks. Verify that the service switch, main breaker, and battery charger are set to OFF in every cabinet.

- ☐ If local regulations require the presence of an electrician, or if power is 50-Hz, the electrician plugs in all power cords. If local regulations do not require the presence of an electrician, plug in the power cords in the following order:

  1. Console central computing unit, console monitor, and modem.

  2. Mainframe cabinet. Insert the 60-Hz mainframe power cord twist-lock connector in the receptable. Turn it clockwise to lock it into position.

  3. Disk cabinets. Insert the twist-lock power connector of a 60-Hz disk cabinet in the receptable. Turn it clockwise to lock it into position.

  4. Disk/tape cabinets.

  5. Tape cabinets.

  6. Other peripherals, such as XMD cabinets, IPI tape cabinets, and CYBER 170 peripherals.

Refer to the following figure , turn on all switches and breakers in the following sequence.

Starting with the disk (or tape/disk) cabinet farthest away from the mainframe, cabinet by cabinet, and ending with the mainframe :

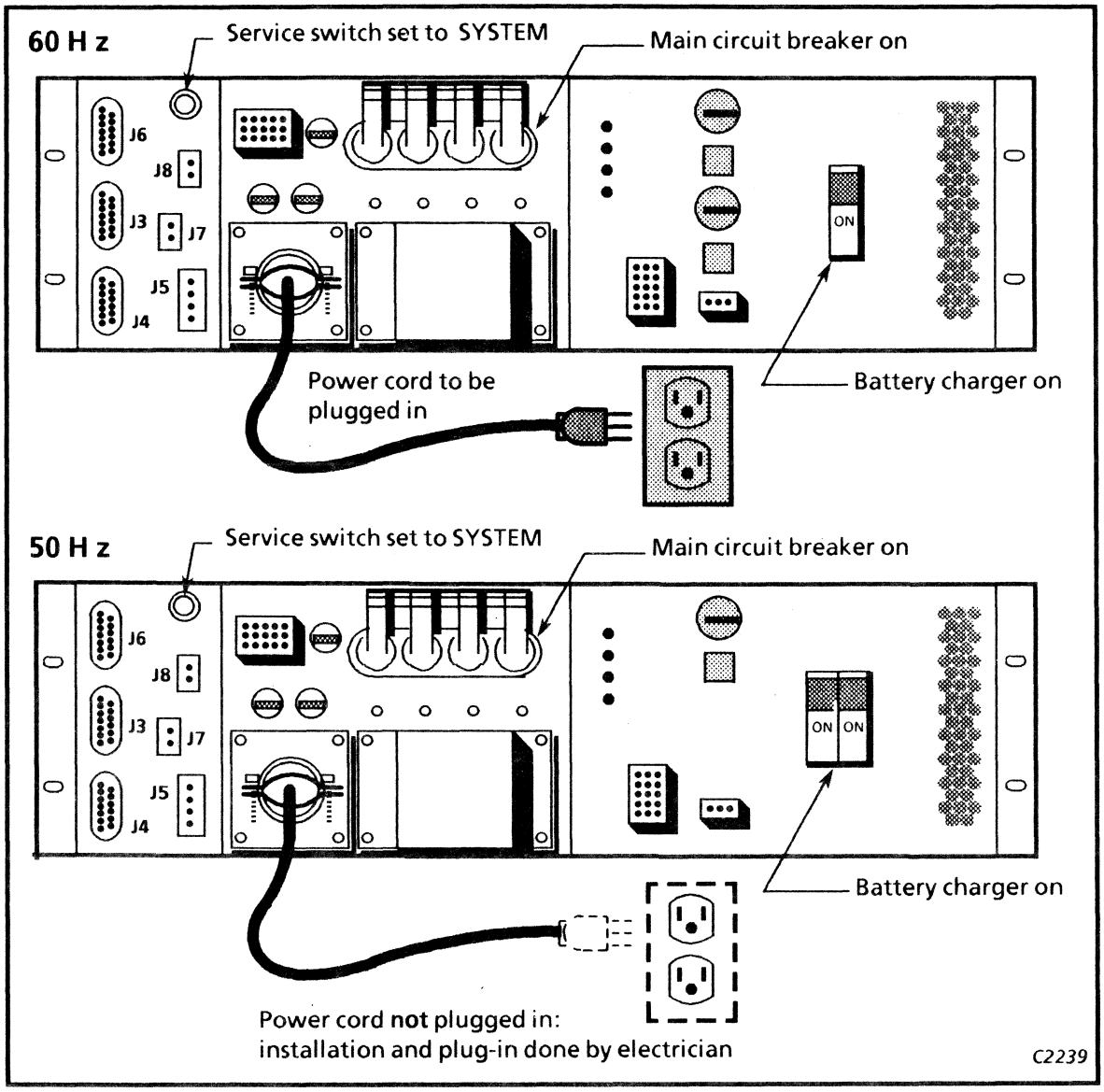
- ☐ Set the service switch to system by gently pulling the switch toward you and toggling it into the middle position;

- ☐ Switch the main breaker on;

- ☐ Switch the battery charger on.

The system is now ready for powering on.

AC and DC Power On



Turn System Power On

The CYBER 930 has a built-in, automatic power-on feature. This gives customers one-button power on and the convenience of automatic initiation of NOS/VE when they turn on the console. Automatic power-on is disabled at the factory; therefore, you must manually power the system on through the console software.

To power on the system, do the following:

- ☐ Turn on the console monitor.
- ☐ Turn on the console central computing unit. The following is displayed:

```
Initializing Console Software
. . . Please Wait . . .

System power is OFF
```

After a few seconds, the Console Main menu is displayed:

```
CONSOLE MAIN MENU

OS Load Automatic
OS Load With Intervention
Maintenance
Remote Operations
Control System Power
Shut Down Console
```

- ☐ Press **C** to select Control System Power.

```
CONTROL SYSTEM POWER

Mainframe power is OFF


Press F10 to turn power ON
```

☐ Press <F10> once and wait. As the screen display changes, you hear several clicks from the mainframe, disk, and tape/disk cabinets as power comes on and the fans and subassemblies start up. The console is turning system power on and initializing the mainframe hardware.

```
CONTROL SYSTEM POWER

Mainframe power   is   ON
    Power System  is   GOOD
    Two Port Mux  is   ON

Press F10 to turn power OFF
```

☐ To reenable automatic power on, press the following keys to display the Initiate NOS/VE Options menu:

<Esc>	to return to the Console Main menu.
M	to display the Maintenance menu.
U	to display the Utilities menu.
S	to select the system options screen.
<PgDn>	to view the second page of Initiate NOS/VE Options.

```
                                                    PAGE 2 of 2
                    "INITIATE OS" OPTIONS

FORCE HARDWARE INITIALIZE ..............  NO
    INCLUDE DIAGNOSTIC TESTING .........  NO
    PERMIT DEGRADES ON ERROR ...........  NO
ENABLE MDD UTILITY .....................  NO
LOAD MICROCODE .........................  YES
PERFORM CM RELOAD FROM .................  NO
    DEADSTART DUMP TAPE

                    CONSOLE OPTIONS

ENABLE AUTOMATIC POWER ON ..............  NO

                  Valid Entries: YES, NO
```

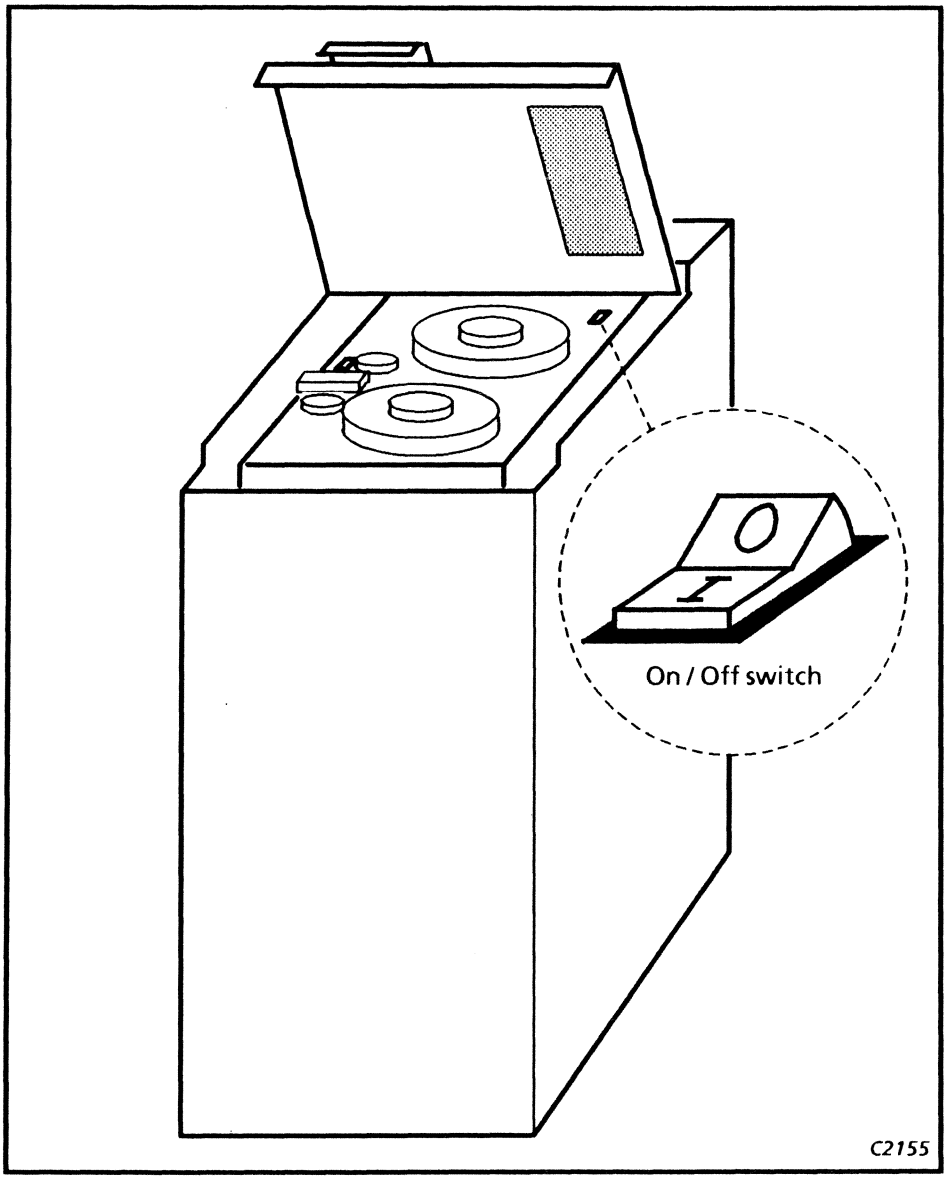
☐ Press <↓> six times to highlight the Enable Automatic Power On option and press <Return> to toggle the option to **YES**.

☐ Press <F3> to save the Enable Automatic Power On option. Press <Esc> twice to return to the Console Main menu.

You can now apply power to the tape cabinet and tape portion of the tape/disk cabinets.

- ☐ Press the on/off switch (shown in the figure below) to apply power to all tape subsystems. Power on both tape subsystems on the same channel; that is **A1** and **A2** or **B1** and **B2**, for successful access to either one.
- ☐ Now apply power to all other peripherals.

The Tape Subassembly On/Off Switch



Specify the Hardware Options

To specify the hardware options:

☐ Open the front door of the mainframe and take the cable configuration map from the literature holder.

☐ Enter the following sequence to select the Specify Hardware Options menu:

M to select Maintenance from the Console Main menu
E to select Engineering Tasks
S to display the Specify Hardware Options menu for the 930 or 932 mainframe shown opposite.

☐ If a low-speed (170) channel adapter is installed in slot 16, specify slot 16 as 170 ADAPTER. However, the following exception applies:

- If the mainframe is connected to a Stornet device and the mainframe is running NOS/VE 1.4.1 and in the file server configuration, specify slot 16 as UNUSED SLOT.

  You must change the slot 16 specification for the above exception to solve a software problem in NOS/VE 1.4.1. For detailed information, refer to NOS/VE 1.4.1 L716 software release bulletin.

☐ Verify the pak types and channel numbers in slots 17 through 20 as specified in the cable configuration map. If an entry is wrong, correct it as follows:

☐ To select a slot for changing the pak type and channel number(s), use the <→>, <←>, <↓>, and <↑> keys.

☐ To enter the required pak and channel number for a slot, press <Return> several times until the designated pak type or channel number is displayed.

☐ Press <F3> to save the contents and exit.

☐ Return the cable configuration map to the literature holder and close the front door of the mainframe.

Specify Hardware Options Menu - 930 Mainframe

*** SPECIFY HARDWARE OPTIONS ***

930 - ? ? Model # ? Serial # ?

SLOT #	PAK	SLOT #	PAK	CH # (octal)
01	MEMORY 1	15	UNUSED SLOT	--
02	MEMORY 3	16	170 ADAPTER	-- --
03	MEMORY 0	17	ICA ADAPTER	--
04	MEMORY 2	18	ICA ADAPTER	--
05	CPU0 C	19	ISMT ADAPTER	--
06	CPU0 B	20	ISMT ADAPTER	--
07	CPU0 A			
08	CLOCK			
09	PAGE MAP			
10	PPUS 00-05			
11	PPUS 20-24			
12	CHANNELS 00-05			
13	CHANNELS 20-25			
14	TPM/MAC			

Specify Hardware Options Menu - 932 Mainframe

*** SPECIFY HARDWARE OPTIONS ***

932 - ?? Model 54 Serial # ?

SLOT #	PAK	SLOT #	PAK	CH # (octal)
01	CPU0 B	16	170 ADAPTER	--
02	CPU0 A	17	ICA ADAPTER	-- --
03	CPU1 B	18	ICA ADAPTER	--
04	CPU1 A	19	ISMT ADAPTER	--
05	CLOCK	20	ISMT ADAPTER	--
06	MEMORY 2			
07	MEMORY 0			
08	MEMORY 3			
09	MEMORY 1			
10	PAGE MAP			
11	PPS 00-04			
12	PPS 20-24			
13	CHANNELS 00-05			
14	CHANNELS 20-25			
15	TPM/MAC			

Verify the Date and Time in the 19002-11 Console

The 19002-11 console has a built-in timer with battery backup. Use the procedure below to verify the console's date and time. Because the mainframe has a separate timer, the console's date and time do not affect the operating system. If the customer does not use the console for other applications, you may skip this procedure.

☐ Exit console mode by keying in the following sequence:

<Alt F10>, **Y**	to enable maintenance mode
<Alt Q>, **Y**	to exit console mode
CD \MSDOS	to change directory to MSDOS

☐ At the MSDOS prompt, type **setup** and press <Enter> to display the setup menu shown below.

PAGE: 1 (Use PgUp an PgDn keys to move through pages)

	Modified	**Current**
	dd/mm/yy	dd/mm/yy
Date	20/05/1989	20/05/1989
Time	14:30:48	13:30:48
Diskette 0 (A:)	High Capacity 5-1/4"	High Capacity 5-1/4"
Diskette 1 (B:)	None	None
Hard Disk 1	9-MiniScribe 8425 (25MB)	9-MiniScribe 8425 (25MB)
Hard Disk 2	0-None	0-None
Primary Video Display	Enhanced	Enhanced
Base Ram	640 KB	640 KB
Expansion Ram	0 KB	0 KB

A	Abort	↑ or ↓ to Select	PgUp - Backward Page
W	Write	+ or - to Change	PgDn - Forward Page

☐ Verify the date and time. To change the date, time, or configuration, follow instructions on the bottom of the menu.

☐ Press <Ctrl Alt Del> to reset the console.

Section 6
Completing Installation

Check the System Clock 6-2

Run Diagnostics 6-4

1. Execute the ICA and TDI Cable/Transceiver Confidence Test 6-4
2. Enter the System Identifier into the TDI's MPB Board 6-5
3. Deadstart NOS/VE 6-6
4. Define the NOS/VE Network 6-6
5. Execute System Validation Suite 6-7
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Verify Modem Communications Parameters 6-10
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Verify Remote Technical Assistance 6-14

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Peripheral Cabinet Battery Online Check 6-22

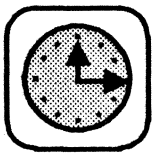
Tidy up Cables and Cabinets 6-24

Fill Out Reports 6-26

Hand the System Over to the Customer 6-27

Repack the System for Shipping 6-28

Check the System Clock



Before you run diagnostics, verify the date and time of the system clock. If they are incorrect, change them as follows:

☐ At the Console Main menu, press **M** to display the Maintenance menu.

```
MAINTENANCE
Utilities
Run Mainframe Diagnostics
Perform Deadstart Dump
Set System Clock
Analyze Last Error
EngineeringTasks
```

☐ Press **S** to display the Set System Clock menu.

```
SET SYSTEM CLOCK

Enter Date-Time :   00 / 00 / 00-00 : 00
                    YY / MM / DD-HH : MM

CONSOLE MODE        BS ← : Left  Space → : Right  Return : Set Clock  ESC : Abort
```

- ☐ If the date and time are correct, press <Esc> twice to return to the Main menu.
- ☐ If the date and time are incorrect, correct them.
- ☐ Press <Return> to set the system clock and to return to the Maintenance menu. To verify the changes in the system clock:
  - ☐ Press **S** to view and verify the corrected screen.
    - ☐ If the clock is correct, press <Esc> twice to return to the Console Main menu.
    - ☐ If the changes are incorrect, reenter the correct date and time. Press <Return> and repeat the verification process.

For additional information on changing the system clock, press <Alt F1> to view online help or refer to the CYBER 930 Computer System Guide to Operations [Control Data publication 60469560].

If the CDCNET and printer are also installed, verify the following CDCNET components are functional as part of the system installation:

- Integrated Communications Adapter (ICA) board, ICA cable and transceiver connected to Ethernet trunk;
- One Terminal Device Interface (TDI) in a Device Interface (DI) cabinet, TDI cable and transceiver connected to Ethernet trunk;
- 721 terminal or equivalent connected to TDI;
- 537 printer or equivalent connected to TDI.

When the mechanical part of installation is complete, perform the following 7 major steps to validate the mainframe, CDCNET, and peripheral hardware in an operating system environment.

If the CDCNET and printer are not parts of the installation, perform steps 1a and 5 only.

1. Execute the ICA and TDI Cable/Transceiver Confidence Test

a. Run the Offline ICA Test

☐ From the Console Main menu, key in the following sequence to select the ICA test:

M	to select Maintenance
E	to select Engineering Tasks
T	to select Technical Support Functions
<Return>	to proceed
D	to select Diagnostics
S	to select Subsystem tests
I	to select the ICA Test
E	to select the Enter Parameters menu

☐ Enter the channel number (usually channel 0 or 20) in word 0. If you are not sure of the channel number, refer to the Specify Hardware Option menu.

☐ Press **<F3>** to save the entry and exit.

☐ Type **S** to select the deadstart PPU. If the ICA is connected to channel 20, make sure that the PPU is in the range of 20 through 24.

☐ Press <Return> and then **R** to run the ICA test.

☐ Check that all red LEDs on the ICA board are off.

b. Run the ICA Test with TDI-to-Transceiver Cable

- ☐ Disconnect the ICA-to-transceiver cable from the back of the 930 series mainframe.
- ☐ Connect the TDI-to-transceiver cable to the ICA port on the back of the 930 series mainframe.
- ☐ Reexecute the offline ICA test (step 1a).

C. Reconnect ICA and TDI cables

- ☐ Disconnect the TDI-to-transceiver cable from mainframe and reconnect it to the ESCI port in the DI cabinet.
- ☐ Reconnect the ICA-to-transceiver cable to the ICA port on the back of the 930 series mainframe.

2. Enter the System Identifier into the TDI's MPB Board

This procedure assumes that one Device Interface (DI) cabinet in a TDI configuration has been installed with a RS232 LIM installed in port 0, A 721 terminal is connected to LIM 0, port 0 and a 537 or equivalent printer is connected to LIM 0, port 1. A DI installation worksheet should be on site for the CDCNET configuration.

Refer to the CDCNET Hardware Installation and Troubleshooting Guide, Control Data publication [60000348], for DI installation procedures and switch setting for the DI boards.

- ☐ Enter the system identifier into the DI's MPB board by using either the maintenance console option/ASCII terminal method or the manual method that uses the configuration switches on the MPB board. The two methods are described in the Main Processor Board (MPB) Installation Procedure section of the CDCNET Hardware Installation and Troubleshooting Guide, Control Data publication [60000348].
- ☐ Follow the procedure, Setting the MPB Switches for Normal Operation, to set the MPB configuration switches 3, 2, and 1 to the DI slot number that contains the ESCI board.

3. Deadstart NOS/VE

- ☐ Obtain a copy of the current NOS/VE Installation Handbook that is shipped with the CYBER 930 series system. Read the chapter on CYBER 930 Series Initial Installation.

- ☐ Follow directions in step 1: Initiate NOS/VE Deadstart. When a message SYSTEM ACTIVATION COMPLETE appears, go to the next step.

4. Define the NOS/VE Network

Step 2 in the chapter on CYBER 930 Series Initial Installation describes how to define and activate the CDCNET network. For the purpose of verifying the printer, you only need to perform the following steps:

- ☐ Enter the command **Define_network**. The Define_Network menu shown in the Installation Handbook appears with four menu selections.

- ☐ Press <F9> to expand the display window.

- ☐ Press **2** to select Define the CDCNET Configuration. The CDCNET DI Configuration menu appears with four menu selections.

- ☐ Perform selections 1, 2, and 4.

  A site ASYNC terminal is automatically defined for LIM 0, port 0. Do not select selection 3 unless the terminal is on a different LIM or port. Selection 4 defines the LIM, port, and parity of the ASYNC printer (536 or 537). Parity selection for a 536 printer is ODD and for a 537 printer is EVEN.

- ☐ Enter **QUIT** to return to the Define_Network menu.

- ☐ Enter **3** to select Activate the Network from the Define_Network menu.

- ☐ Enter **QUIT** to exit the Define_Network menu.

☐ Following the final directions of Step 2, Define the NOS/VE Network, to reset the DI cabinet.

When the DI is reset, the ON and FAULT LEDs on the front of the DI cabinet will be lit. The LEDs on the MPB board will flash during the onboard testing and download of the TDI from the mainframe. When the download has completed, the FAULT LED on the front of the DI cabinet will be off and the top LED on the MPB board will flash occasionally.

☐ Press <Return> or <Next> twice on the terminal connected to LIM 0, port 0 (or the LIM and port that you define in previous step). The message: You may enter CDCNET Commands appears.

Proper mode settings that would work for CDCNET on d a 721 terminal are as follows:

F2-100000 F3-001000 F4-0 F5-010000
F6-4E64 F7-0 F8-0 F9-00 A A F10-100000

☐ Power on the printer and make sure that the printer is online.

5. Execute System Validation Suite

The SVS tests CYBER 930 hardware features by executing operating system functions, test jobs, and online hardware diagnostics. The tests take about one hour to complete one pass of system verification testing. The actual testing time depends, in part, on the size of the system you install. Before proceeding:

☐ Power all tape drives on.

☐ Mount an unlabeled scratch tape with a write ring on each tape drive .

☐ Ready each tape drive.

☐ If you has performed step 3, Deadstart NOS/VE, do not initiate the operating system again. Skip the next step.

☐ Initiate the operating system as follows:

- Press <Esc> several times on the system console until the Console Main menu appears.
- Press O at the Console Main menu to select OS Load Automatic.

  Over the next few minutes, the console displays several screens, starting with a CIP location screen, to keep you informed of the initialization process. If NOS/VE initialization is successful, the following prompts appear:

```
----- SYSTEM ACTIVATION COMPLETE -----
/
@
```

☐ To execute SVS diagnostics, type the commands listed below and press <Return> after each one:

```
CREATE_COMMAND_LIST_ENTRY ..
   E=$SYSTEM.SVS.COMMAND_LIBRARY
ESTSE V
SETJCL MAINTENANCE 50
RUNSVS FOR 1 PASS
```

After you enter the second command line and SVS is established successfully, the following screen is displayed.

```
                        Main Operator Window

RUNSVS initiates testing.        The possible formats are shown below:

   RUNSVS   FOR                  INTEGER VALUE      PASSES or HOURS or MINUTES
            UNTIL                CLOCK HOUR (1-12)  AM or PM
            CONTINUOUSLY         (RUNS UNTIL YOU TYPE TERMINATE)

EXAMPLES: RUNSVS FOR 72 HOURS, RUNSVS UNTIL 12 PM, RUNSVS FOR 2 PASSES
VE displays can be changed by entering the following commands:

VED AJ displays active jobs     VED SL displays the system log
VED DS displays device status   VED MS displays mass storage status
```

6. Test Printer Using CML/VE

- ☐ After SVS has begun execution, enter **CML** and press <Return> to initiate the Concurrent Maintenance Library/Virtue Environment (CML/VE). The CML menu appears at the console.

  If you are not familiar with CML/VE usage, refer to the CML/VE manual [Control Data publication 60000019].

- ☐ Enter **7** and press <Return> to select the CDCNET Utility. The CML_700 - CDCNET menu appears.

- ☐ Enter **4** and press <Return> to select the CDCNET Online Diagnostic. The CML_740 - CDCNET Diagnostics menu appears.

- ☐ Enter **14** and press <Return> to send test file to public printer. The CML_741 - Public Printer Test menu appears.

- ☐ Enter **2** and press <Return> to change the device name to PRINTER1.

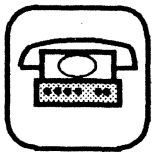
- ☐ Enter **4** and press <Return> to execute the printer test. A test pattern file is routed to the printer.

- ☐ Enter **M** and press <Return> several times until the screen return to the Main CML menu.

- ☐ Enter **9** and press <Return> to exit CML/VE. The test pattern should be printed on the printer defined in earlier step.

- ☐ While SVS is still executing, set up and verify Remote Technical Assistance. Later, redisplay NOS/VE to see the results of the system verification test.

Set Up Remote Technical Assistance



If the customer allows Remote Technical Assistance (RTA), set up and verify it now. Installation is not complete until RTA is set up and verified.

For more about setting up and verifying Remote Technical Assistance, refer to the CYBER 930 Computer System Maintenance Guide [Control Data publication 60469540].

To set up RTA, verify the modem communications parameters and set up the telephones lists. Get the following information from the customer:

- ☐ Local callout digit used to reach an outside telephone line
- ☐ Area code
- ☐ RTA telephone number
- ☐ Pulse or tone RTA direct line dialing

After SVS diagnostics are running, press <Alt F2> to return to console mode and the Console Main menu.

```
CONSOLE MAIN MENU

OS Load Automatic
OS Load With Intervention
Maintenance
Remote Operations
Control System Power
Shut Down Console
```

- ☐ Press **R** to display the Remote Operations menu.

```
REMOTE OPERATIONS

Answer Incoming Calls
Call Remote Console
Direct Cable Connection
Manual Telephone Connection
```

Verify Modem Communications Parameters

Modem communications parameters are preset according to North American standards using a MultiTech Systems MultiModem 224E.

Verify that the preset modem communications parameters are correct by doing the following.

☐ From the Remote Operations menu, type **A** to select the Answer Incoming Calls menu.

```
ANSWER INCOMING CALLS
Communications Parameters
Edit Telephone List
Start Answering Calls
```

☐ Type **C** to view the preset modem communications parameters.

```
SET COMMUNICATIONS PARAMETERS
Modem Initialization String  = ATE0Q1B1S0 = 1S2 = 127&E1&Q1
Modem Dial String = ATDP
Baudrate          =  2400
Parity            =  none
```

In the menu shown above, the last character in the modem dial string parameter indicates communications are set for *pulse* dialing. If the customer's RTA direct line is set for *tone* dialing (for example, a touch tone RTA telephone), change the modem dial string parameter from ATDP to ATDT.

If you establish overseas communications, such as transatlantic communications, change the modem initialization string to :

ATE0Q1B1S0=1S2=127S7=60S9=19S10=20&E1

☐ If the communications parameters are correct, press <Esc> to return to the Answer Incoming Calls menu.

If you must change the preset communications parameters, call Engineering Services CYBER 930 Remote Support.

☐ Verify the DIP switch setting on the modem.

If the modem for the remote link operation is the MultiTech 224EH, set the DIP switches on the underside of the modem to the following:

Switch	Setting
3 and 8	Down
1, 2, 4 through 7	Up

Set switch 1, which is used for setting the data terminal ready signal, to Up for proper remote link termination. For modems other than the MultiTech 224EH, set the data terminal ready signal to normal.

☐ Power the modem on.

Edit the Telephone Lists

To set up RTA:

☐ Enter the telephone number(s) for CYBER 930 Remote Support in both the callout and callin telephone lists. See the help display for more information to assist you.

☐ Call CYBER 930 Remote Support for the telephone number for RTA. Remote Support may ask you to enter more than one telephone number.

☐ Be aware that the callin telephone numbers are compared by the console software before callback. Returning a call from the customer's site may require a noncomparable local callout digit and/or an area code.

☐ If the customers do not want to pay for the long distance calls, you can prefix each telephone number with the word *disable*. If the **Ignore "disable" options when answering calls** option under the console security options is set to NO, *disable* prevents the local console from returning an incoming call when a match of telephone numbers occurs. The remote console must also use *disable* to prefix its own telephone number for the disable feature to work.

If you are unfamiliar with the rules for entering telephone numbers, or you need more information, refer to the CYBER 930 Computer System Guide to Operations [Control Data publication 60469560] or to the CYBER 930 Computer System Maintenance Guide [Control Data publication 60469540].

To edit the callin telephone list, take the following steps from the Answer Incoming Calls menu:

☐ Press **E** to select the Edit Telephone List menu;

☐ If the callin telephone list is password protected, the console prompts for the password. Enter the valid password to proceed;

```
CALL IN TELEPHONE LIST
1.
2.
3.
4.
5.
6.
7.
8.
9.
```

☐ Type **1**. This allows you to enter the first number in the callin list;

☐ Enter the telephone number of the remote console; this is the number for CYBER 930 Remote Support;

  ☐ If appropriate, the telephone number should include the customer's local callout digit, the Remote Support area code or the prefix *disable*;

☐ Press <Return> to save the number and display it in the first entry in the list.

☐ If CYBER 930 Remote Support asks you to enter more than one telephone number, type **2** to add the second Remote Support telephone number to the callout list.

☐ Type **3** to add the third Remote Support telephone number to the callout list.

☐ When you complete the entries, press <Esc>.

To edit the callout telephone list, follow these steps:

☐ Type **C** at the Remote Operations menu to select the Call Remote Console menu.

☐ Type **E** to display and edit the Call Out Telephone List.

Follow the same steps and sequence to add the same telephone number(s) you entered in the callin list.

Verify Remote Technical Assistance

Call Engineering Services CYBER 930 Remote Support and ask them to verify that Remote Technical Assistance (RTA) is operational at the customer site. Give Remote Support the following information:

- ☐ RTA telephone number at the customer's site
- ☐ Customer's area code, if appropriate
- ☐ If you changed any of the preset defaults, the modem communications parameters

CYBER 930 Remote Support initiates the call to establish the RTA link. To prepare the customer's console (the local console) to accept the call from Remote Support (the remote console), take the following steps:

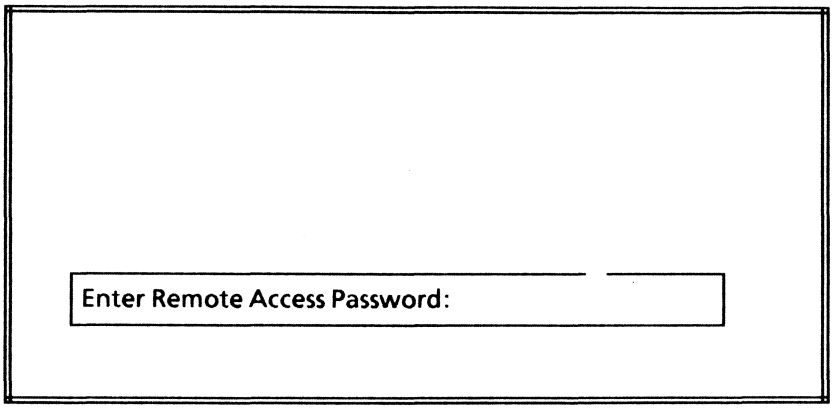
- ☐ Type **A** at the Remote Operations menu to select the Answer Incoming Calls menu.

```
ANSWER INCOMING CALLS
Communications Parameters
Edit Telephone List
Start Answering Calls
```

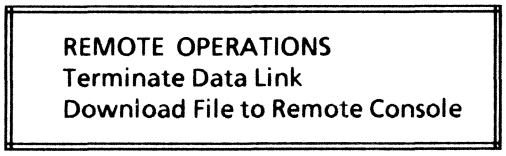
- ☐ Type **S** to select the Start Answering Calls menu. The following message is displayed and the console is now set to receive a call.

```
Set to answer calls in succession

Press <ESC> to return to previous menu

... waiting for call ...
```

When CYBER 930 Remote Support calls, the local console accepts the call, disconnects, and then calls the remote console back. If the connection is made and the password is not set to NULL, the console prompts for the remote access password. The remote operator must enter a valid password to establish the remote link.



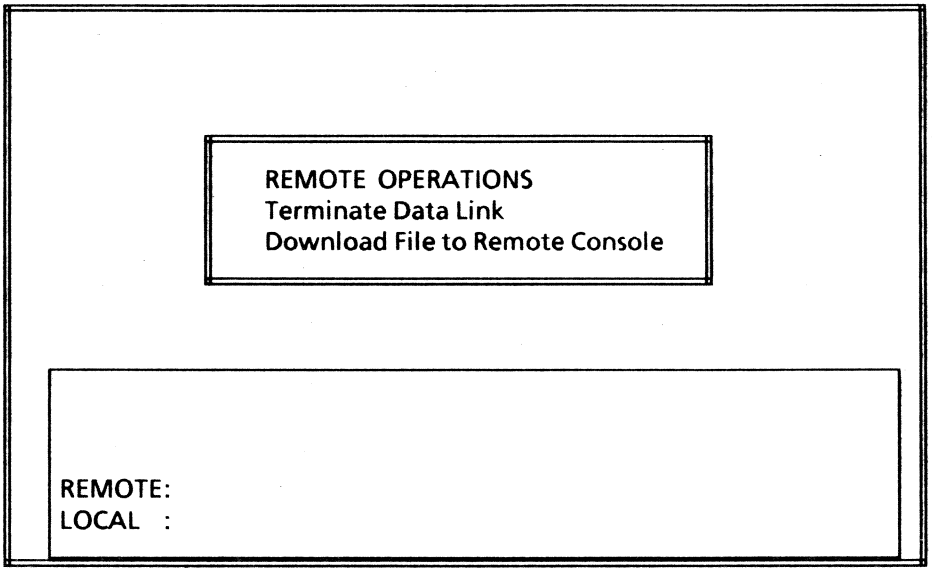
Once a link is established, the Remote Operations menu is displayed on the screen.



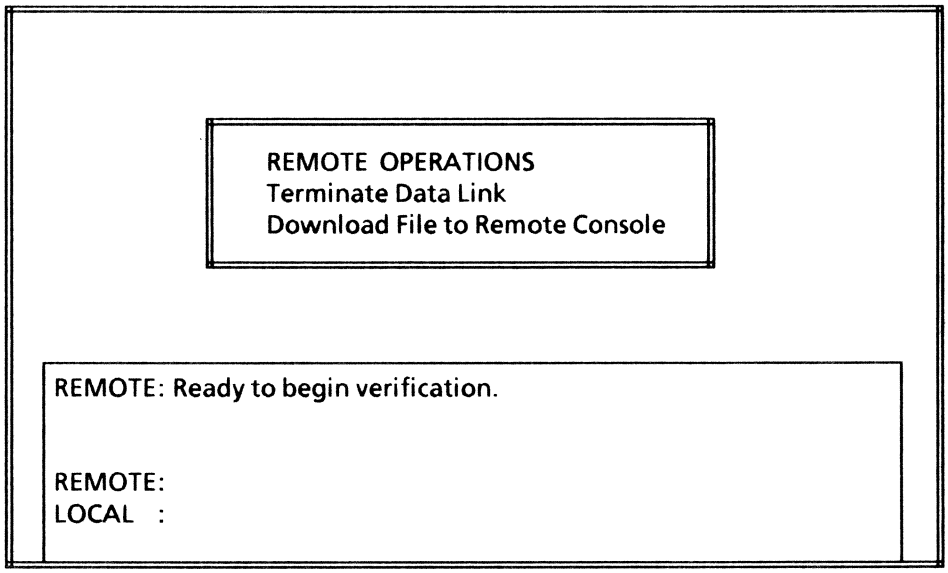
During RTA only one console, either the remote or the local, has control of the keyboard.

To start the RTA session, the remote operator presses <Esc> to return to the Console Main menu and to have control of the keyboard. The display at the local console changes to reflect what the remote console is displaying.

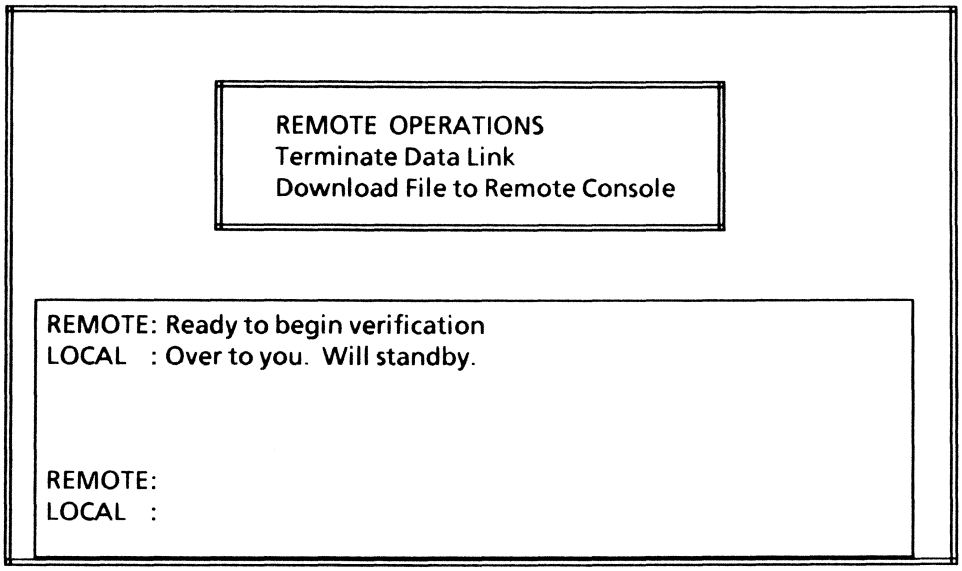
You and the remote operator can use the Interconsole Communications Facility (ICCF) to send and receive messages on a special display window. To activate ICCF, press <ALT F3> at any screen while in console mode.



As the remote operator enters a message, you see it appear following the REMOTE: indicator. When the remote operator completes the message and presses <Return>, the message is redisplayed at the top of the ICCF window. The local console can now send a reply.



The local console message appears beside the LOCAL: indicator as you enter your reply. When your reply is complete, press <Return> to redisplay the message at the top of the ICCF window and to allow Remote Support to either respond or perform some additional RTA checks.



CYBER 930 Remote Support sends a message using the ICCF to let you know RTA has been verified.

After the RTA session, Remote Support terminates the RTA link. Your console display indicates that the console is ready to accept additional calls. To terminate the process and return to the Console Main menu, press <Esc> twice.

Verify Diagnostics

To redisplay NOS/VE:

☐ Press <Alt F2>.

When SVS testing is complete, the console displays a TESTING COMPLETED message, and either PASSED or FAILED in large block letters.

If the test fails, HPA/VE automatically generates and prints reports that include any intermittent or corrected hardware failures.

If the test fails, and the HPA/VE report indicates that the errors are corrected memory errors, *do not replace any memory paks*. Because corrected errors do not affect the performance of memory, treat the SVS test as passed.

For more information on HPA/VE reports and SVS, refer to the CYBER 930 Maintenance Guide [Control Data publication 60469540].

If you require additional help or the CYBER 930 Computer System failed the SVS diagnostics , contact Customer Support Services at one of the following telephone numbers:

- United States: 800 345-9904
- Canada: 800 345-9903
- International (includes Alaska and Hawaii): 612 851-4131

If the CYBER 930 Computer System PASSED, exit NOS/VE and return to console mode.

☐ Type the following commands and press <Return> after each one.

```
QUIT
TERMINATE_SYSTEM
```

☐ Press <Alt F2> to return to the Console Main menu.

If the CYBER 930 Computer System does not have the battery backup option, skip the procedure on the next page for verifying the battery backup operation and power the system off as follows:

- ☐ Press **C** to select the Control System Power menu.
- ☐ Press <F10>.
- ☐ Press <Esc>.
- ☐ Turn off console power.
- ☐ Turn off the tape units in all tape and tape/disk cabinets.
- ☐ Turn off any other peripheral units you installed, such as expanded module drives and CYBER 170 peripherals.

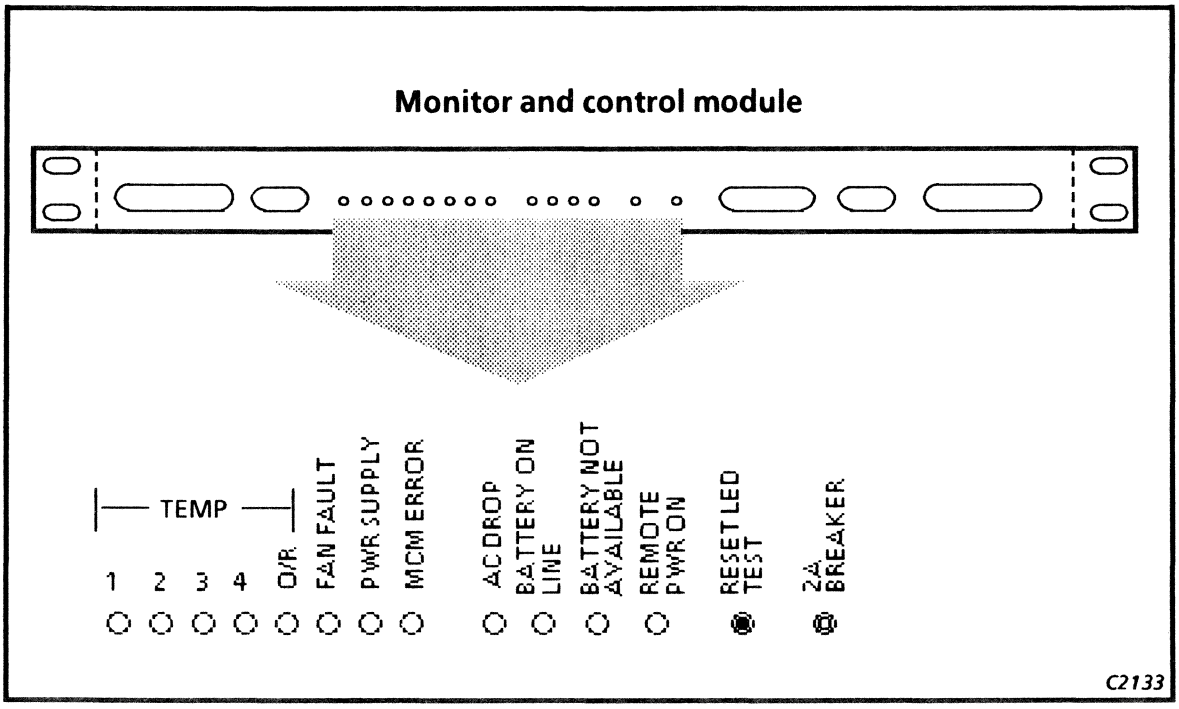
Verify Battery Backup Operation

A fully charged battery backup can maintain cabinet power up to two minutes during power interruption. To avoid unnecessary draining of the batteries, verify the battery operation in the mainframe or peripheral cabinets online for only 15 seconds.

Because the elapsed time for verification is short, one installer should check the indicators in the third step while the other disconnects or connects the AC Hubbell in the second step.

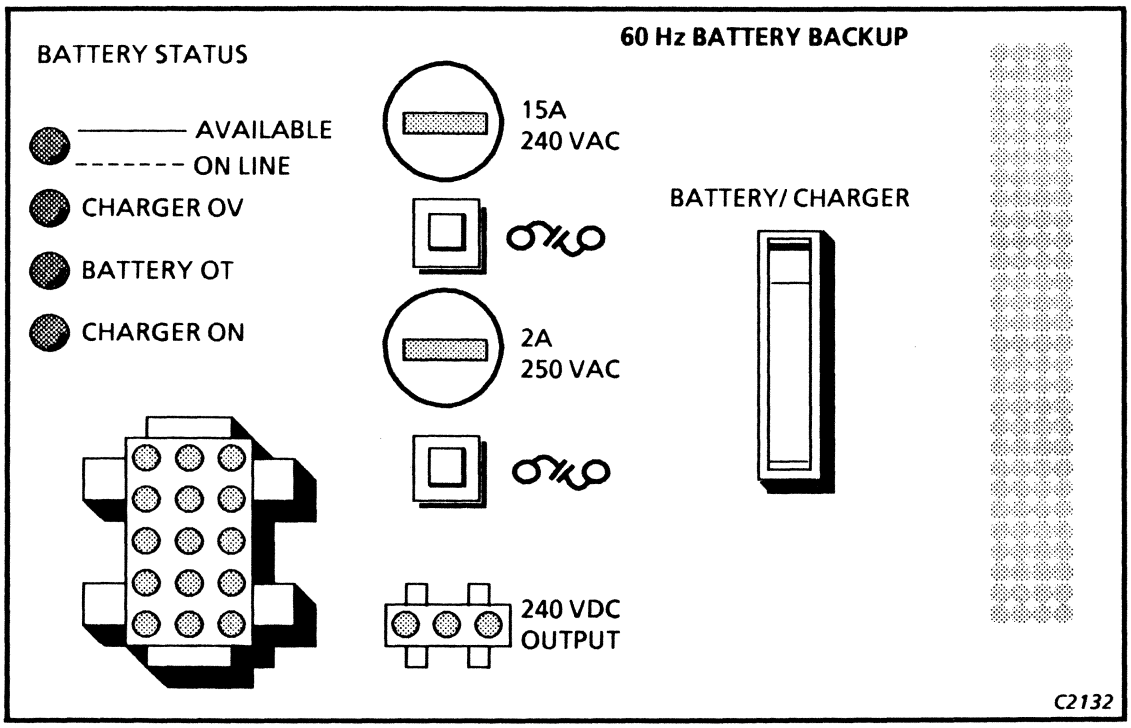
Mainframe Battery Online Check

- ☐ Ensure that the service switch is set to SYSTEM and the system is on.
- ☐ Disconnect the AC Hubbell connector from the wall outlet and take a time count of 15 seconds.
- ☐ Verify the following:
  - ☐ The BATTERY ON LINE and AC DROP indicators on the monitor and control module are lit.



☐ The AVAILABLE ON LINE indicator on the battery charger is flashing.

☐ The mainframe power remains on.



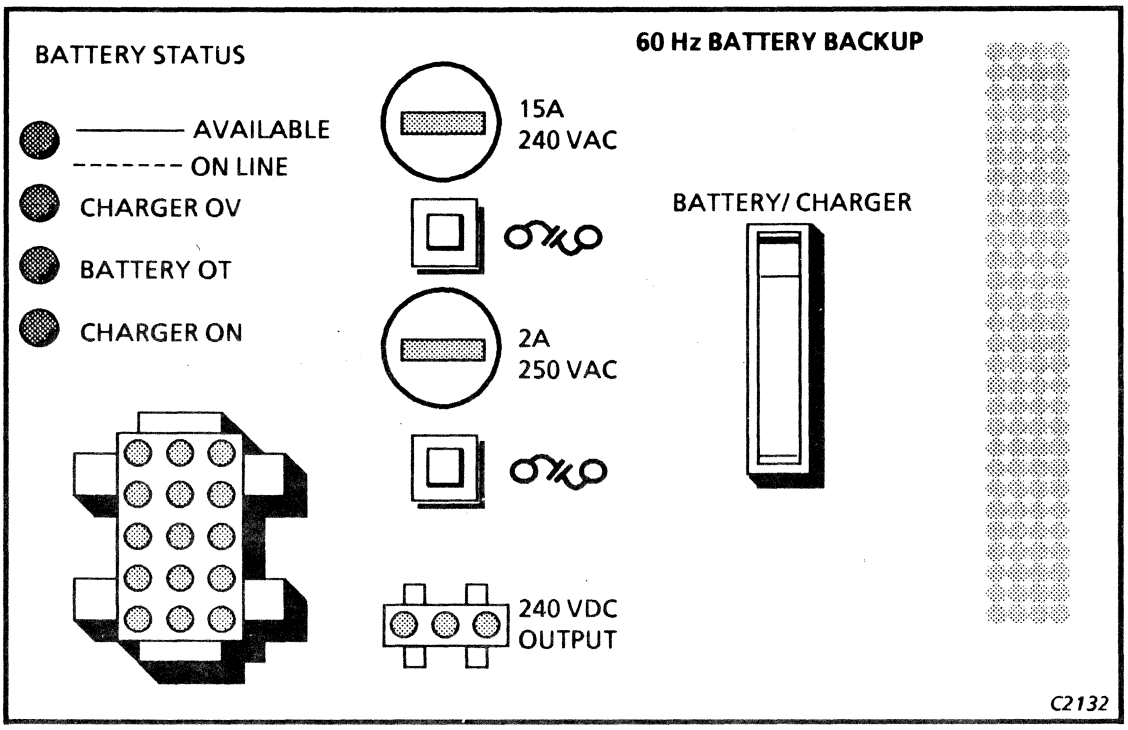
☐ At the end of the 15 seconds, reconnect the AC hubbell connector to the power outlet.

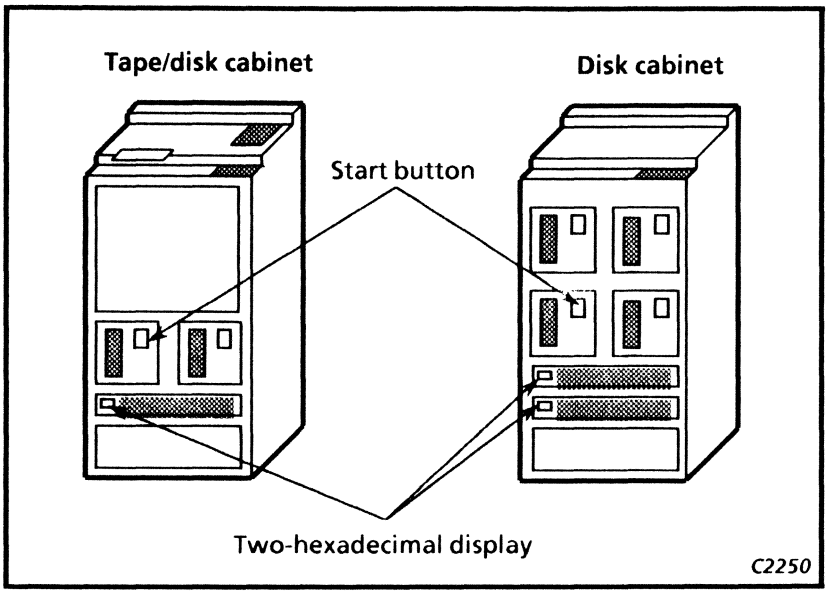
☐ Verify the following:

- ☐ BATTERY ON LINE and AC DROP indicators on the monitor and control module are off.
- ☐ AVAILABLE ON LINE indicator on the battery charger is on but not flashing.
- ☐ Mainframe power remains on.

Peripheral Cabinet Battery Online Check

- ☐ Ensure that the service switch is set to SYSTEM and the system is on.
- ☐ Disconnect the AC Hubbell connector of the peripheral cabinet from the wall outlet and take a time count of 15 seconds.
- ☐ Verify the following:
  - ☐ AVAILABLE ON LINE indicator on the battery charger is flashing.
  - ☐ Cabinet power remains on.
  - ☐ Green indicator (start button) on each disk drive is lit.
  - ☐ The two-hexadecimal error display on the control module is on.
  - ☐ BATTERY ON LINE indicator on the monitor and control module of the mainframe is on.
  - ☐ AC DROP indicator on the monitor and control module is off.





- ☐ After 15 seconds, reconnect the AC hubbell connector to the power outlet.
- ☐ Verify the following:
  - ☐ AVAILABLE ON LINE indicator on the battery charger is on but not flashing.
  - ☐ Cabinet power remains on.
  - ☐ BATTERY ON LINE indicator.on the monitor and control module of the Mainframe is off.
- ☐ Return the system to the customer.
- ☐ Repeat the above procedure for each cabinet that contains a battery backup option.

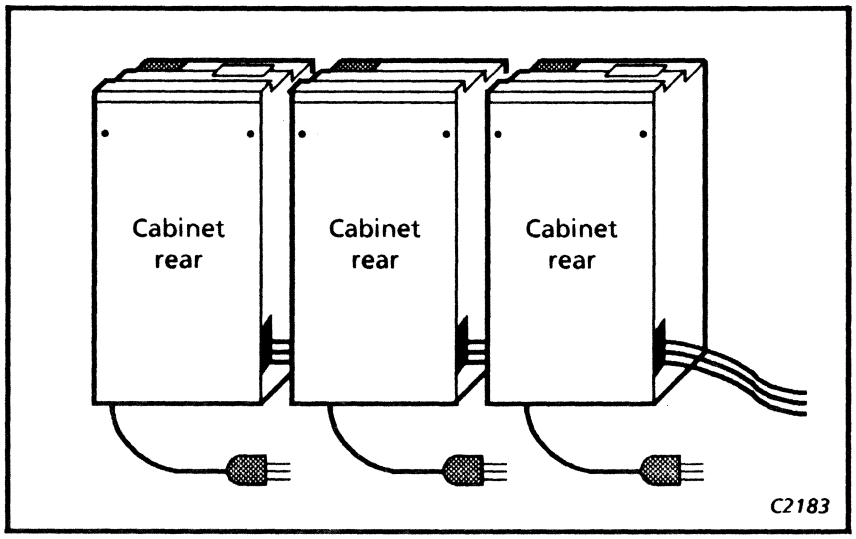
Tidy up Cables and Cabinets

Before you close and lock the cabinet doors, tidy the external cables.

- ☐ String the signal and power control cables through the side openings from cabinet to cabinet as shown in the illustration below. Power cords exit through the cutouts in the cable trough at the bottom of the cabinets.

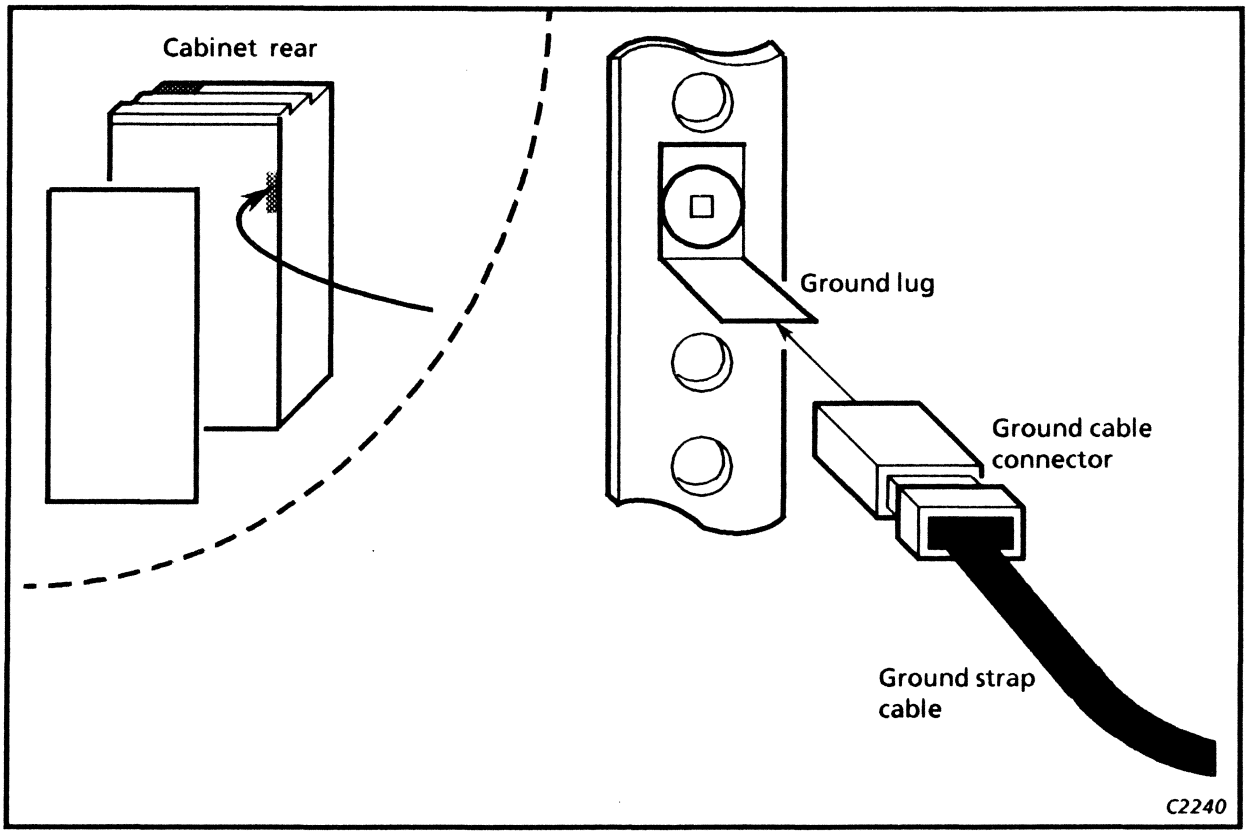
- ☐ Place a copy of the cable configuration map and the customer's floor plan inside the pocket of the front door of the mainframe. Replace any label kits removed from the pocket of the front door of the mainframe during installation.

Cable Housekeeping



- ☐ Close and lock the front doors of all cabinets with the key provided.
- ☐ Close and lock the rear doors, one cabinet at a time.
  - ☐ Position the cabinet rear door.
  - ☐ Attach the rear door ground strap connector to the ground lug as shown in the figure below.
  - ☐ Turn a 4 mm (5/32 in) hexdriver clockwise to secure both rear door latches.
  - ☐ Repeat for each cabinet.

Attaching the Rear Door Ground Strap



Fill Out Reports

Complete the Installation Quality Program (IQP) Report. The QSA Manual contains the IQP Report and directions for completing it.

Depending on your Engineering Services branch office policy, you may also have to complete a maintenance activity form. Follow the directions on the form.

The procedure for submitting these reports depends on your Engineering Services branch office policy.

Send the QSA manual and one copy of the cable configuration map to the engineer-in-charge or to your Engineering Services branch manager.

Forward any comments you have on the CYBER 930 Installation Guide. Either return the Comment Sheet form at the back of this book or submit a Technical Action Request (TAR). Be sure to include the address of the Engineering Services branch office and your telephone or Controlnet number.

Hand the System Over to the Customer

- ☐ Show the customer the two ways to power the system on:
  - ☐ By using the automatic, one-button power-on feature.
  - ☐ By by-passing the automatic power-on and instead powering the system on through console software menus.
- ☐ Give the customer the keys to the CYBER 930 Computer System. Retain a set of keys for Engineering Services.
- ☐ Give the customer a copy of the completed cable configuration map.
- ☐ Tell the customer that the passwords are currently set to NULL and that directions on how to change them are in the CYBER 930 Computer System Guide to Operations [Control Data publication 60469560].

Repack the System for Shipping

If you send the CYBER 930 Series computer system to a new location or to return it to a service center, each cabinet must be repacked carefully using the correect packing kit listed below. The packing kits are available through scheduling and should be ordered through the sales organization.

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19270761	Uses for either disk cabinet, tape/disk cabinet, 930 mainframe, or 932 mainframe.
19270762	Uses for the tape cabinet.

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